

SCOPE OF WORK	PROJECT DIRECTORY
GUNITE SWIMMING POOL AND SPA MECHANICAL POOL EQUIPMENT MECHANICAL SAFETY COVER	STRUCTURAL ENGINEER: POOL ENGINEERING INCORPORATED 1201 N. TUSTIN AVENUE ANAHEIM, CA 92807 CONTACT: TODD LACHER PHONE: 714-630-6100
SHEET INDEX	
APPLICABLE BUILDING CODE	
2025 CALIFORNIA ADMINISTRATIVE CODE 2025 CALIFORNIA BUILDING CODE 2025 CALIFORNIA RESIDENTIAL CODE 2025 CALIFORNIA MECHANICAL CODE 2025 CALIFORNIA PLUMBING CODE 2025 CALIFORNIA ELECTRIC CODE 2025 CALIFORNIA ENERGY CODE 2025 INTERNATIONAL SWIMMING POOL AND SPA CODE	
LEGEND FOR ABBREVIATIONS	
(EX) EXISTING (RET) RETAINING (CMU) CONCRETE MASONRY UNIT (MIN) MINIMUM (CONC) CONCRETE (AC) ASPHALT (BLDG) BUILDING (PROP) PROPERTY (PL) PROPERTY LINE (PIA) PLANTER AREA	

LEDGEND

SHEET INDEX: (12 pages- Hillside Review)

- 01- (A0) COVER SHEET
- 02- (A1) SITE PLAN
- 03- (HRP) HILLSIDE REVIEW PLAN
- 04- (LP) LANDSCAPE PLAN (around pool)
- 05- (ECP) EROSION CONTROL PLAN
- 06- (SP1) CONSTRUCTION PLAN
- 07- (100) STRUCTURAL PLAN

- 08- (Detail-400) Retaining Wall Surcharge
- 09- (Detail-554) Deepend Pool Excavation
- 10- ((Detail-591-125) Freestanding Wall
- 11- (Detail-631) Pool Subdrain System
- 12- (Detail-672) Auto Pool Cover

CALIFORNIA HEALTH AND SAFETY CODE SECTION 115922
(A) EXCEPT AS PROVIDED IN SECTION 115925, WHEN A BUILDING PERMIT IS ISSUED FOR THE CONSTRUCTION OF A NEW SWIMMING POOL OR SPA OR THE REMODELING OF AN EXISTING SWIMMING POOL OR SPA AT A PRIVATE SINGLE-FAMILY HOME, THE RESPECTIVE SWIMMING POOL OR SPA SHALL BE EQUIPPED WITH AT LEAST TWO OF THE FOLLOWING SEVEN DROWNING PREVENTION SAFETY FEATURES: (1) AN ENCLOSURE THAT MEETS THE REQUIREMENTS OF SECTION 115923 AND ISOLATES THE SWIMMING POOL OR SPA FROM THE PRIVATE SINGLE-FAMILY HOME. (2) REMOVABLE MESH FENCING THAT MEETS AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) SPECIFICATIONS F2286 STANDARDS IN CONJUNCTION WITH A GATE THAT IS SELF-CLOSING AND SELF-LATCHING AND CAN ACCOMMODATE A KEY LOCKABLE DEVICE. (3) AN APPROVED SAFETY POOL COVER, AS DEFINED IN SUBDIVISION (D) OF SECTION 115921. (4) EXIT ALARMS ON THE PRIVATE SINGLE-FAMILY HOME'S DOORS THAT PROVIDE DIRECT ACCESS TO THE SWIMMING POOL OR SPA, THE EXIT ALARM MAY CAUSE EITHER AN ALARM NOISE OR A VERBAL WARNING, SUCH AS A REPEATING NOTIFICATION THAT "THE DOOR TO THE POOL IS OPEN." (5) A SELF-CLOSING, SELF-LATCHING DEVICE WITH A RELEASE MECHANISM PLACED NO LOWER THAN 54 INCHES ABOVE THE FLOOR ON THE PRIVATE SINGLE-FAMILY HOME'S DOORS PROVIDING DIRECT ACCESS TO THE SWIMMING POOL OR SPA. (6) AN ALARM THAT, WHEN PLACED IN A SWIMMING POOL OR SPA, WILL SOUND UPON DETECTION OF ACCIDENTAL OR UNAUTHORIZED ENTRANCE INTO THE WATER. THE ALARM SHALL MEET AND BE INDEPENDENTLY CERTIFIED TO THE ASTM STANDARD F2208 "STANDARD SAFETY SPECIFICATION FOR RESIDENTIAL POOL ALARMS," WHICH INCLUDES SURFACE MOTION, PRESSURE, SONAR, LASER, AND INFRARED TYPE ALARMS. A SWIMMING PROTECTION ALARM FEATURE DESIGNED FOR INDIVIDUAL USE, INCLUDING AN ALARM ATTACHED TO A CHILD THAT SOUNDS WHEN THE CHILD EXCEEDS A CERTAIN DISTANCE OR BECOMES SUBMERGED IN WATER, IS NOT A QUALIFYING DROWNING PREVENTION SAFETY FEATURE. (7) OTHER MEANS OF PROTECTION, IF THE DEGREE OF PROTECTION AFFORDED IS EQUAL TO OR GREATER THAN THAT AFFORDED BY ANY OF THE FEATURES SET FORTH ABOVE AND HAS BEEN INDEPENDENTLY VERIFIED BY AN APPROVED TESTING LABORATORY AS MEETING STANDARDS FOR THOSE FEATURES ESTABLISHED BY THE ASTM OR THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME). (B) BEFORE THE ISSUANCE OF A FINAL APPROVAL FOR THE COMPLETION OF PERMITTED CONSTRUCTION OR REMODELING WORK, THE LOCAL BUILDING CODE OFFICIAL SHALL INSPECT THE DROWNING SAFETY PREVENTION FEATURES REQUIRED BY THIS SECTION AND, IF NO VIOLATIONS ARE FOUND, SHALL GIVE FINAL APPROVAL. (AMENDED BY STATS. 2017, CH. 670, SEC. 4. (SB 442) EFFECTIVE JANUARY 1, 2018.
HEALTH AND SAFETY CODE SECTION 115928
WHENEVER A BUILDING PERMIT IS ISSUED FOR THE CONSTRUCTION OF A NEW SWIMMING POOL OR SPA, THE POOL OR SPA SHALL MEET ALL OF THE FOLLOWING REQUIREMENTS: (A) (1) THE SUCTION OUTLETS OF THE POOL OR SPA FOR WHICH THE PERMIT IS ISSUED SHALL BE EQUIPPED TO PROVIDE CIRCULATION THROUGHOUT THE POOL OR SPA AS PRESCRIBED IN PARAGRAPHS (2) AND (3). (2) THE SWIMMING POOL OR SPA SHALL EITHER HAVE AT LEAST TWO CIRCULATION SUCTION OUTLETS PER PUMP THAT SHALL BE HYDRAULICALLY BALANCED AND SYMMETRICALLY PLUMBED THROUGH ONE OR MORE "T" FITTINGS, AND THAT ARE SEPARATED BY A DISTANCE OF AT LEAST THREE FEET IN ANY DIMENSION BETWEEN THE SUCTION OUTLETS, OR BE DESIGNED TO USE ALTERNATIVES TO SUCTION OUTLETS, INCLUDING, BUT NOT LIMITED TO, SKIMMERS OR PERIMETER OVERFLOW SYSTEMS TO CONDUCT WATER TO THE RECIRCULATION PUMP. (3) THE CIRCULATION SYSTEM SHALL HAVE THE CAPACITY TO PROVIDE A COMPLETE TURNOVER OF POOL WATER, AS SPECIFIED IN SECTION 3124B OF CHAPTER 31B OF THE CALIFORNIA BUILDING STANDARDS CODE (TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS). (B) SUCTION OUTLETS SHALL BE COVERED WITH ANTI-ENTRAPMENT GRATES, AS SPECIFIED IN THE ANSI/APSP-16 PERFORMANCE STANDARD OR SUCCESSOR STANDARD DESIGNATED BY THE FEDERAL CONSUMER PRODUCT SAFETY COMMISSION, THAT CANNOT BE REMOVED EXCEPT WITH THE USE OF TOOLS. SLOTS OR OPENINGS IN THE GRATES OR SIMILAR PROTECTIVE DEVICES SHALL BE OF A SHAPE, AREA, AND ARRANGEMENT THAT WOULD PREVENT PHYSICAL ENTRAPMENT AND WOULD NOT POSE ANY SUCTION HAZARD TO BATHERS. (C) ANY BACKUP SAFETY SYSTEM THAT AN OWNER OF A NEW SWIMMING POOL OR SPA MAY CHOOSE TO INSTALL IN ADDITION TO THE REQUIREMENTS SET FORTH IN SUBDIVISIONS (A) AND (B) SHALL MEET THE STANDARDS AS PUBLISHED IN THE DOCUMENT, "GUIDELINES FOR ENTRAPMENT HAZARDS: MAKING POOLS AND SPAS SAFER," PUBLICATION NUMBER 363, MARCH 2005, UNITED STATES CONSUMER PRODUCT SAFETY COMMISSION.

2025 CALIFORNIA RESIDENTIAL COMPLIANCE MANUAL
CRC 5.10.1: THE ENERGY STANDARDS INCLUDE MANY ADDITIONAL REQUIREMENTS FOR RESIDENTIAL SWIMMING POOL FILTRATION EQUIPMENT, WHICH AFFECT PUMP SELECTION AND FLOW RATE, PIPING AND FITTINGS, AND FILTER SELECTION. THESE STANDARDS ARE DESIGNED TO REDUCE THE ENERGY USED TO FILTER AND MAINTAIN THE CLARITY AND SANITATION OF POOL WATER. CRC 5.10.2: BEFORE ANY POOL OR SPA HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED, THE MANUFACTURE MUST CERTIFY TO THE ENERGY COMMISSION THAT THE SYSTEM OR EQUIPMENT COMPLIES WITH SECTION 110.4 AND SECTION 110.5. THE REQUIREMENTS INCLUDE MINIMUM HEATING EFFICIENCY ACCORDING TO APPLIANCE EFFICIENCY REGULATIONS, AN ON-OFF SWITCH OUTSIDE THE HEATER, PERMANENT AND WEATHERPROOF OPERATING INSTRUCTION, NO CONTINUOUS PILOT LIGHT, AND NO ELECTRIC RESISTANCE HEATING. CRC 5.10.2.1: FOR MAXIMUM ENERGY EFFICIENCY, POOL FILTRATION SHOULD BE OPERATED AT THE LOWEST POSSIBLE FLOW RATE FOR A PERIOD THAT PROVIDES SUFFICIENT WATER TURNOVER FOR CLARITY AND SANITATION. AUXILIARY POOL LOADS THAT REQUIRE HIGH FLOW RATES, SUCH AS SPAS, POOL CLEANERS, AND WATER FEATURES, SHOULD BE OPERATED SEPARATELY FROM THE FILTRATION TO ALLOW THE FILTRATION RATE TO BE KEPT TO A MINIMUM. CRC 110.4: OUTDOOR POOLS AND SPAS WITH GAS OR ELECTRIC HEATERS SHALL HAVE A COVER INSTALLED. THE COVER SHOULD BE FITTED AND INSTALLED DURING THE FINAL INSPECTION. CRC 110.5: POOL AND SPA HEATERS MAY NOT HAVE CONTINUOUSLY BURNING PILOT LIGHTS. CRC 150.0(P) 1: ALL PUMPS AND PUMP MOTORS SHALL COMPLY WITH THE SPECIFICATIONS OF THE APPLIANCE EFFICIENCY REGULATIONS. MULTI-SPEED PUMPS MUST HAVE CONTROLS THAT DEFAULT TO THE FILTRATION FLOW RATE WHEN NO AUXILIARY POOL LOADS ARE OPERATING. THE CONTROLS MUST ALSO DEFAULT TO THE FILTRATION FLOW RATE SETTING WITHIN 24 HOURS AND MUST HAVE A TEMPORARY OVERRIDE CAPABILITY FOR SERVICING. CRC 150.0(P) 2: POOL PIPING MUST BE SIZED ACCORDING TO THE MAXIMUM FLOW RATE NEEDED FOR ALL AUXILIARY LOADS. THE MAXIMUM VELOCITY ALLOWED IS 8 FEET PER SECOND (FPS) IN THE RETURN LINE AND 6 FPS IN THE SUCTION LINE. THESE PIPE SIZES NEED TO BE INCREASED IF THERE ARE AUXILIARY LOADS THAT OPERATE AT GREATER THAN THE FILTRATION RATE. THERE MUST BE A LENGTH OF STRAIGHT PIPE THAT IS GREATER THAN OR EQUAL TO AT LEAST 4 INCHES PIPE DIAMETERS INSTALLED BEFORE THE PUMP. PROVIDE AT LEAST 36 INCHES OF PIPE BETWEEN THE FILTER AND THE HEATER TO ALLOW FOR THE FUTURE ADDITION OF SOLAR HEATING EQUIPMENT.
2025 CALIFORNIA RESIDENTIAL CODE 2025 CRC R326, 2018 ISPCS 809 CIRCULATION SYSTEMS
810.1 TURNOVER RATE. THE CIRCULATION SYSTEM EQUIPMENT SHALL BE SIZED TO PROVIDE A TURNOVER OF THE POOL WATER NOT LESS THAN ONCE EVERY 12 HOURS. THE SYSTEM SHALL BE DESIGNED TO PROVIDE THE REQUIRED TURNOVER RATE BASED ON THE MANUFACTURER'S SPECIFIED MAXIMUM FLOW RATE OF THE FILTER, WITH A CLEAN MEDIA CONDITION OF THE FILTER. 810.2 STRAINER REQUIRED. PRESSURE FILTER SYSTEMS SHALL BE PROVIDED WITH A STRAINER LOCATED BETWEEN THE POOL AND THE CIRCULATION PUMP.
2025 CBC 3109 ENCLOSURE
CBC 3109.4.4.3 ENCLOSURE; REQUIRED CHARACTERISTICS. AN ENCLOSURE SHALL HAVE ALL OF THE FOLLOWING CHARACTERISTICS: 1. ANY ACCESS GATES THROUGH THE ENCLOSURE OPEN AWAY FROM THE SWIMMING POOL AND ARE SELF-CLOSING WITH A SELF-LATCHING DEVICE PLACED NO LOWER THAN 60 INCHES (1524 MM) ABOVE GROUND. 2. A MINIMUM HEIGHT OF 60 INCHES (1524MM). 3. A MAXIMUM VERTICAL CLEARANCE FROM THE GROUND TO THE BOTTOM OF THE ENCLOSURE OF 2 INCHES (51MM). 4. GAPS OR VOIDS, IF ANY, DO NOT ALLOW PASSAGE OF A SPHERE EQUAL TO OR GREATER THAN 4 INCHES (102MM) IN DIAMETER. 5. AN OUTSIDE SURFACE FREE OF PROTRUSIONS, CAVITIES OR OTHER PHYSICAL CHARACTERISTICS THAT WOULD SERVE AS HANDHOLDS OR FOOTHOLDS THAT COULD ENABLE A CHILD BELOW THE AGE OF FIVE TO CLIMB OVER.

2025 CALIFORNIA ELECTRIC CODE 680.26 EQUIPOTENTIAL BONDING
680.26 (A): THE EQUIPOTENTIAL BONDING REQUIRED BY THIS SECTION SHALL BE INSTALLED TO REDUCE VOLTAGE GRADIENTS IN THE POOL AREA. 680.26 (B): THE PARTS SPECIFIED IN 680.26 (B)(1) THROUGH (B)(7) SHALL BE BONDED TOGETHER USING SOLID COPPER CONDUCTORS, INSULATED COVERED, OR BARE, NOT SMALLER THAN 8 AWG OR WITH RIGID METAL CONDUIT OF BRASS OF OTHER IDENTIFIED CORROSION-RESISTANT METAL. CONNECTIONS TO BONDED PARTS SHALL BE MADE IN ACCORDANCE WITH 250.8. AN 8 AWG OR LARGER SOLID COPPER BONDING CONDUCTOR PROVIDED TO REDUCE VOLTAGE GRADIENTS IN THE POOL AREA SHALL NOT BE REQUIRED TO BE EXTENDED OR ATTACHED TO REMOTE PANELBOARDS, SERVICE EQUIPMENT, OR ELECTRODES. 680.26 (B)(1)(A): STRUCTURAL REINFORCING STEEL UNENCAPSULATED STRUCTURAL REINFORCING STEEL SHALL BE BONDED TOGETHER BY STEEL TIE WIRES OR THE EQUIVALENT. WHERE STRUCTURAL REINFORCING STEEL IS ENCAPSULATED IN A NONCONDUCTIVE COMPOUND, A COPPER CONDUCTOR GRID SHALL BE INSTALLED IN ACCORDANCE WITH 680.26(B)(1)(B). 680.26 (B)(2): THE PERIMETER SURFACE SHALL EXTEND FOR 1M (3 FT) HORIZONTALLY BEYOND THE INSIDE WALLS OF THE POOL AND SHALL INCLUDE UNPAVED SURFACES AS WELL AS POURED CONCRETE AND OTHER TYPES OF PAVING. BONDING TO PERIMETER SURFACES SHALL BE PROVIDED AS SPECIFIED IN 680.26(B)(2)(A) OR (2)(B) AND SHALL BE ATTACHED TO THE POOL REINFORCING STEEL OF COPPER CONDUCTOR GRID AT A MINIMUM OF FOUR (4) POINTS UNIFORMLY SPACED AROUND THE PERIMETER OF THE POOL. FOR NONCONDUCTIVE POOL SHELLS, BONDING AT FOUR POINTS SHALL NOT BE REQUIRED. 680.26 (B)(3): ALL METALLIC PARTS OF THE POOL STRUCTURE, INCLUDING REINFORCING METAL NOT ADDRESSED IN 680.26(B)(1)(A), SHALL BE BONDED. WHEN REINFORCING STEEL IS ENCAPSULATED WITH NONCONDUCTIVE COMPOUND, THE REINFORCING STEEL SHALL NOT BE REQUIRED TO BE BONDED. 680.26 (B)(4): ALL METAL FORMING SHELLS AND MOUNTING BRACKETS OF NO-NICHE LUMINAIRES SHALL BE BONDED. 680.26 (B)(5): ALL METAL FITTINGS WITHIN OR ATTACHED TO THE POOL STRUCTURE SHALL BE BONDED. ISOLATED PARTS THAT ARE NOT OVER 100M (4 IN) IN ANY DIMENSION AND DO NOT PENETRATE INTO THE POOL STRUCTURE MORE THAN 25MM (1 IN) SHALL NOT REQUIRE BONDING. 680.26 (B)(6): METAL PARTS OF ELECTRICAL EQUIPMENT ASSOCIATED WITH THE POOL WATER CIRCULATING SYSTEM, INCLUDING PUMP MOTORS AND METAL PARTS OF EQUIPMENT ASSOCIATED WITH POOL COVERS, INCLUDING MOTORS, SHALL BE BONDED. 680.26 (B)(7): METAL-SHEATHED CABLES AND RACEWAYS, METAL PIPING AND ALL FIXED METAL PARTS SHALL BE BONDED. EXCEPTION NO. 1: THOSE SEPARATED FROM THE POOL BY A PERMANENT BARRIER SHALL NOT BE REQUIRED TO BE BONDED. EXCEPTION NO. 2: THOSE GREATER THAN 1.5M (5 FEET) HORIZONTALLY OF THE INSIDE WALLS OF THE POOL SHALL NOT BE REQUIRED TO BE BONDED. EXCEPTION NO. 3: THOSE GREATER THAN 3.7M (12 FEET) MEASURED VERTICALLY ABOVE THE MAXIMUM WATER LEVEL OF THE POOL, OR AS MEASURED VERTICALLY ABOVE ANY OBSERVATION STANDS, TOWERS, OR PLATFORMS, OR ANY DIVING STRUCTURES, SHALL NOT BE REQUIRED TO BE BONDED. 680.26 (B)(7)(C): POOL WATER. AN INTENTIONAL BOND OF A MINIMUM CONDUCTIVE SURFACE AREA OF 5806 MM2 (9 SQUARE INCHES) SHALL BE INSTALLED IN CONTACT WITH THE POOL WATER. THIS BOND SHALL BE PERMITTED TO CONSIST OF PARTS THAT ARE REQUIRED TO BE BONDED IN 680.26(B).
2025 CALIFORNIA ELECTRIC CODE
CEC 680.23 (A)(5): LUMINAIRES MOUNTED IN WALLS SHALL BE INSTALLED WITH THE TOP OF THE LUMINAIRE LENS NOT LESS THAN 450 MM (18 IN) BELOW THE NORMAL WATER LEVEL OF THE POOL, UNLESS THE LUMINAIRE IS LISTED AND IDENTIFIED FOR USE AT LESSER DEPTHS. NO LUMINAIRE SHALL BE INSTALLED LESS THAN 100 MM (4 IN) BELOW THE NORMAL WATER LEVEL OF THE POOL. CEC 680.23 (B)(5): THE LUMINAIRE SHALL BE BONDED TO, AND SECURED TO, THE FORMING SHELL BY A POSITIVE LOCKING DEVICE THAT ENSURES A LOW-RESISTANCE CONTACT AND REQUIRES A TOOL TO REMOVE THE LUMINAIRE FROM THE FORMING SHELL. BONDING SHALL NOT BE REQUIRED FOR LUMINAIRES THAT ARE LISTED FOR THE APPLICATION AND HAVE NO NON-CURRENT-CARRYING METAL PARTS. CEC 680.22 (A)(3): WHERE A PERMANENTLY INSTALLED POOL IS INSTALLED AT A DWELLING UNIT(S), NO FEWER THAN ONE 125-VOLT, 15 OR 20-AMP RECEPTACLE ON A GENERAL-PURPOSE BRANCH CIRCUIT SHALL BE LOCATED NOT LESS THAN 1.83M (6FT) FROM, AND NOT MORE THAN 6.0M (20FT) FROM, THE INSIDE WALL OF THE POOL. THIS RECEPTACLE SHALL BE LOCATED NOT MORE THAN 2.0M (6FT 6IN) ABOVE THE FLOOR, PLATFORM, OR GRADE LEVEL SERVING THE POOL. CEC 680.22 (A)(4): ALL 15 AND 20-AMPERE, SINGLE-PHASE, 125 VOLT RECEPTACLES LOCATED WITHIN 6.0 M (20FT) OF THE INSIDE WALLS OF A POOL SHALL BE PROTECTED BY A GROUND-Fault CIRCUIT INTERRUPTER. CEC 680.21 (C): OUTLETS SUPPLYING POOL PUMP MOTORS FROM BRANCH CIRCUITS WITH SHORT-CIRCUIT AND GROUND-FAULT PROTECTION RATED 15 OR 20 AMPERES, 125 VOLT OF 240 VOLT, SINGLE PHASE, WHETHER BY RECEPTACLE OR DIRECT CONNECTION, SHALL BE PROVIDED WITH GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL. CEC 680.23 (A)(3): GFCI PROTECTION, RELAMPING, A GROUND-FAULT CIRCUIT INTERRUPTER SHALL BE INSTALLED IN THE BRANCH CIRCUIT SUPPLYING LUMINAIRES OPERATING AT MORE THAN 15 VOLTS SUCH THAT THERE IS NO SHOCK HAZARD DURING RELAMPING. THE INSTALLATION OF THE GROUND-FAULT CIRCUIT INTERRUPTER SHALL BE SUCH THAT THERE IS NO SHOCK HAZARD WITH ANY LIKELY FAULT-CONDITION COMBINATION THAT INVOLVES A PERSON IN A CONDUCTIVE PATH FROM ANY UN GROUNDING PART OF THE BRANCH CIRCUIT OR THE LUMINAIRE TO GROUND. CEC 680.23 (B)(1): ALL FORMING SHELLS USED WITH NONMETALLIC CONDUIT SYSTEM, OTHER THAN THOSE THAT ARE PART OF THE LISTED LOW-VOLTAGE SYSTEM NOT REQUIRING GROUNDING, SHALL INCLUDE PROVISIONS FOR TERMINATING AN 8 AWG COPPER CONDUCTOR. CEC 680.23 (B)(2): THE 8 AWG INSULATED SOLID OR STRANDED COPPER BONDING JUMPER SHALL BE ISOLATED IN THE CONDUIT AD TERMINATED IN THE FORMING SHEEL, JUNCTION BOX, OR TRANSFORMER ENCLOSURE, AND GFCI ENCLOSURE.

VICINITY MAP

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NEW SWIMMING POOL

DATE: 3/20/2025

REV1: 3/20/2026
REV2: 4-3-2026
REV3:
REV4:
REV5:
REV6:

OWNER: NADER EMAMI & SAMAN CHOUBAK
SITE ADDRESS: 3619 CRESCENT CIRCLE
CITY: SANTA ROSA, CA 95403
PHONE: 914.707.9744
SWAN PM: MIKE MOREY 925-766-9162
SWAN SALESPERSON: TIM MUTERT
APN: 173-600-016-000

Swan Pools
DESIGN ENGINEERING CONSTRUCTION
2950 CAMINO DIABLO, SUITE 200
WALNUT CREEK, CA 94597
(925) 934-7926 FAX (925) 934-5845
CSLB NO. 775835 C53/C27

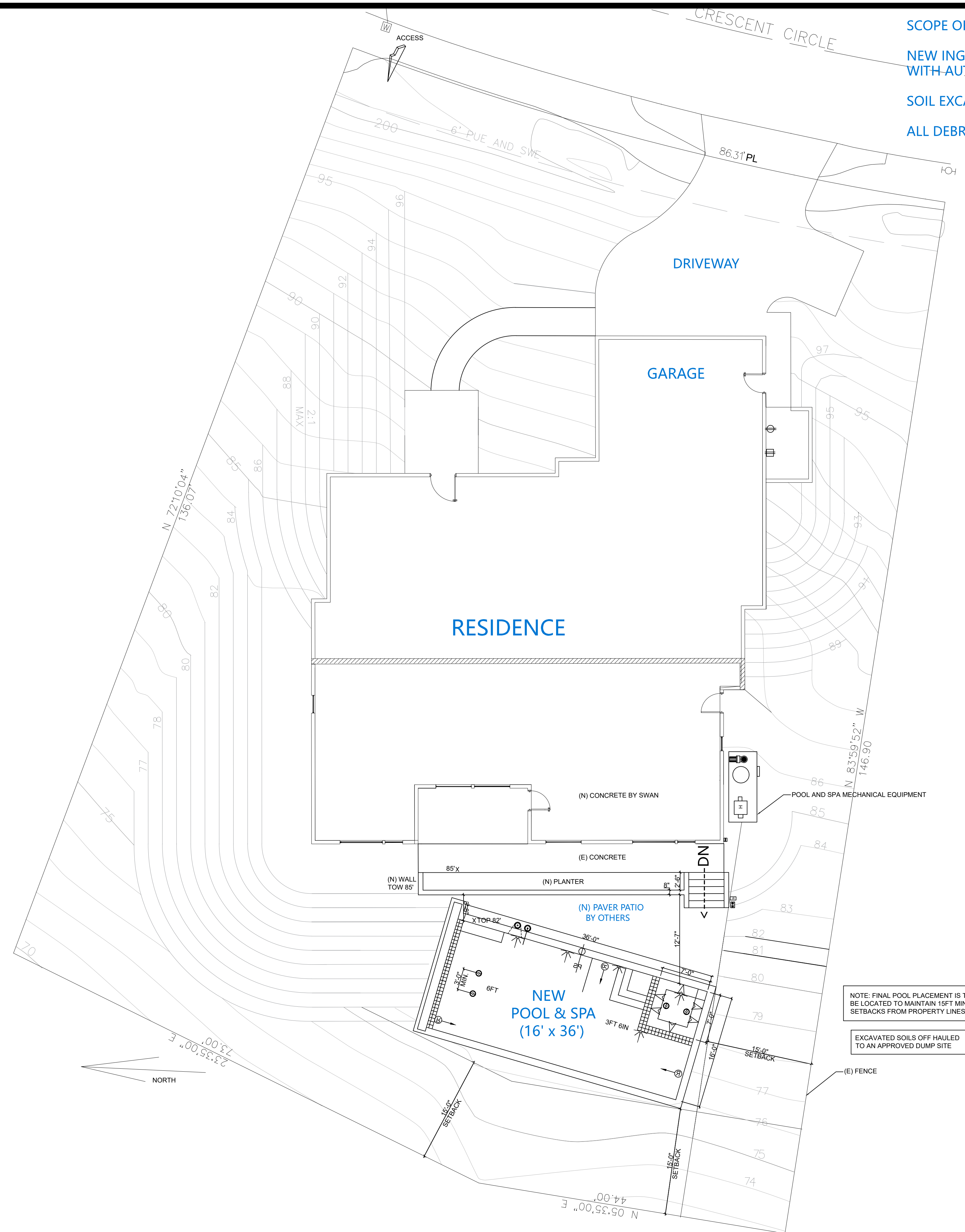
COVER SHEET

DRAWN: HEB

Heidi Bennett

SCALE: NTS

A0



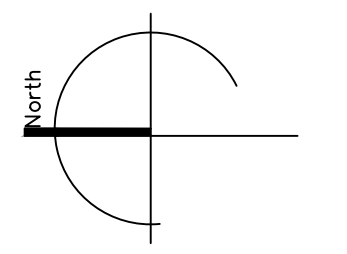
SCOPE OF WORK:

NEW INGROUND GUNITE SWIMMING POOL & SPA (16' x 36')=576sq.ft.
WITH-AUTO SAFETY COVER AND GAS HEATER

SOIL EXCAVATION:

ALL DEBRIS TO BE HAULED OFF SITE TO A CITY APPROVED LOCATION

HILLSIDE REVIEW REVISED PLAN



CALL BEFORE
YOU DIG 811

NEW SWIMMING POOL

DATE: 6.3.2025

- REV1: 3.20.2026
- REV2:
- REV3:
- REV4:
- REV5:
- REV6:

OWNER: NADER EMAMI & SAMAN CHOUBAK
 SITE ADDRESS: 3619 CRESCENT CIRCLE
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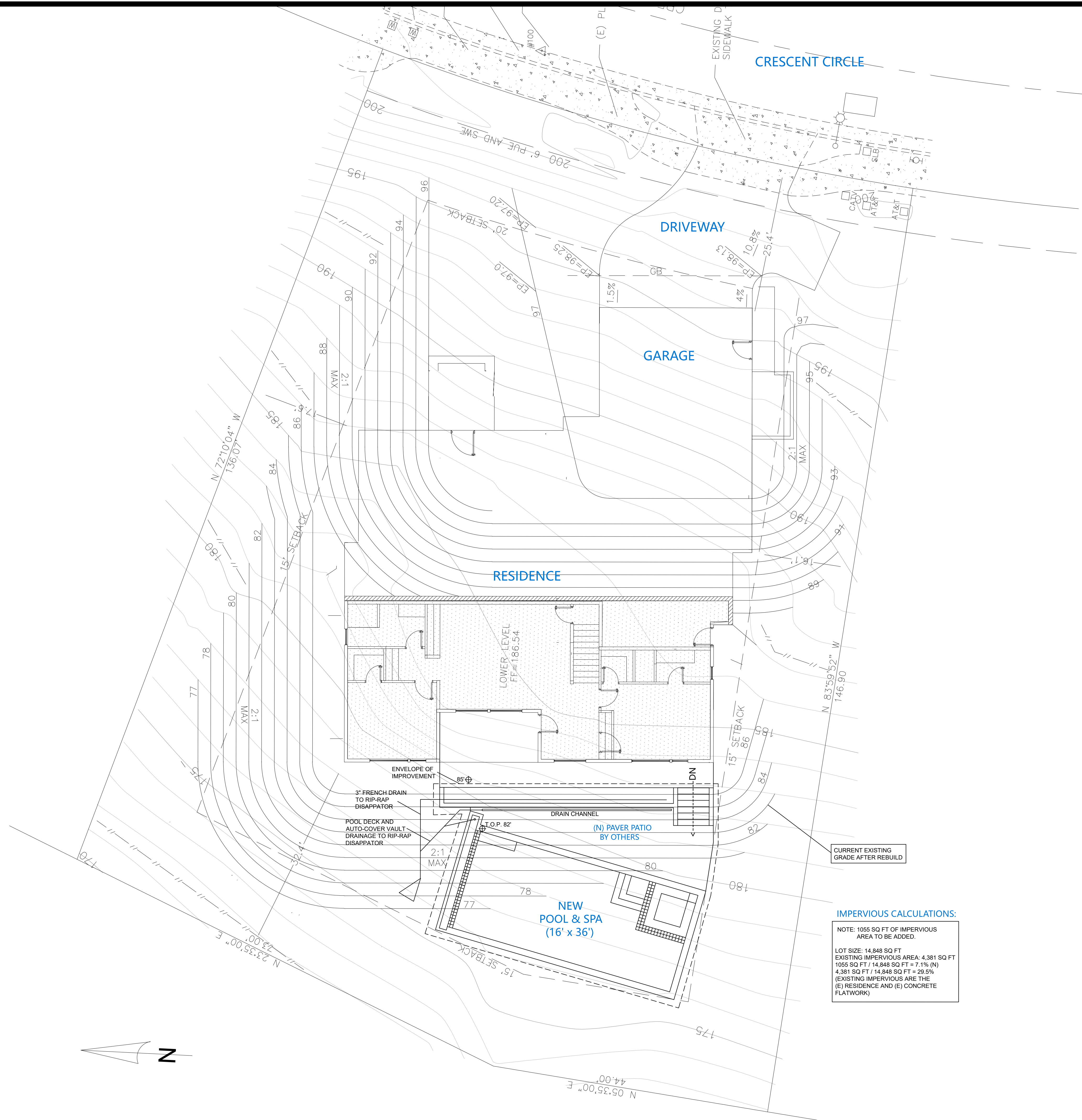
PROJECT
SITE PLAN

DRAWN: HEB

Heidi Bennett

SCALE: 1/8" = 1'-0"

A1



IMPERVIOUS CALCULATIONS:

NOTE: 1055 SQ FT OF IMPERVIOUS AREA TO BE ADDED.

LOT SIZE: 14,848 SQ FT
 EXISTING IMPERVIOUS AREA: 4,381 SQ FT
 1055 SQ FT / 14,848 SQ FT = 7.1% (N)
 4,381 SQ FT / 14,848 SQ FT = 29.5%
 (EXISTING IMPERVIOUS ARE THE (E) RESIDENCE AND (E) CONCRETE FLATWORK)

HILLSIDE REVIEW PLAN

DATE: 3/22/2026

REV1: 4-3-2026
 REV2:
 REV3:
 REV4:
 REV5:
 REV6:

OWNER: NADER EMAMI & SAMAN CHOUBAK
 SITE ADDRESS: 3619 CRESCENT CIRCLE
 CITY: SANTA ROSA, CA 95403
 PHONE: 914.707.9744
 SWAN PM: MIKE MOREY 925-766-9162
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HILLSIDE REVIEW PLAN

DRAWN: RLV

RLV

SCALE: 1/8" = 1'-0"

HRP

LANDSCAPE PLAN

DATE: 6.3.2025

REV1: 4.03.2026
 REV2:
 REV3:
 REV4:
 REV5:
 REV6:

OWNER: NADER EMAMI & SAMAN CHOUBAK
 SITE ADDRESS: 3619 CRESCENT CIRCLE
 CITY: SANTA ROSA, CA 95403
 PHONE: 914.707.9744
 SWAN PM: MIKE MOREY 925-766-9162
 SWAN SALESPERSON: TIM MUTERT
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EROSION CONTROL DETAILS

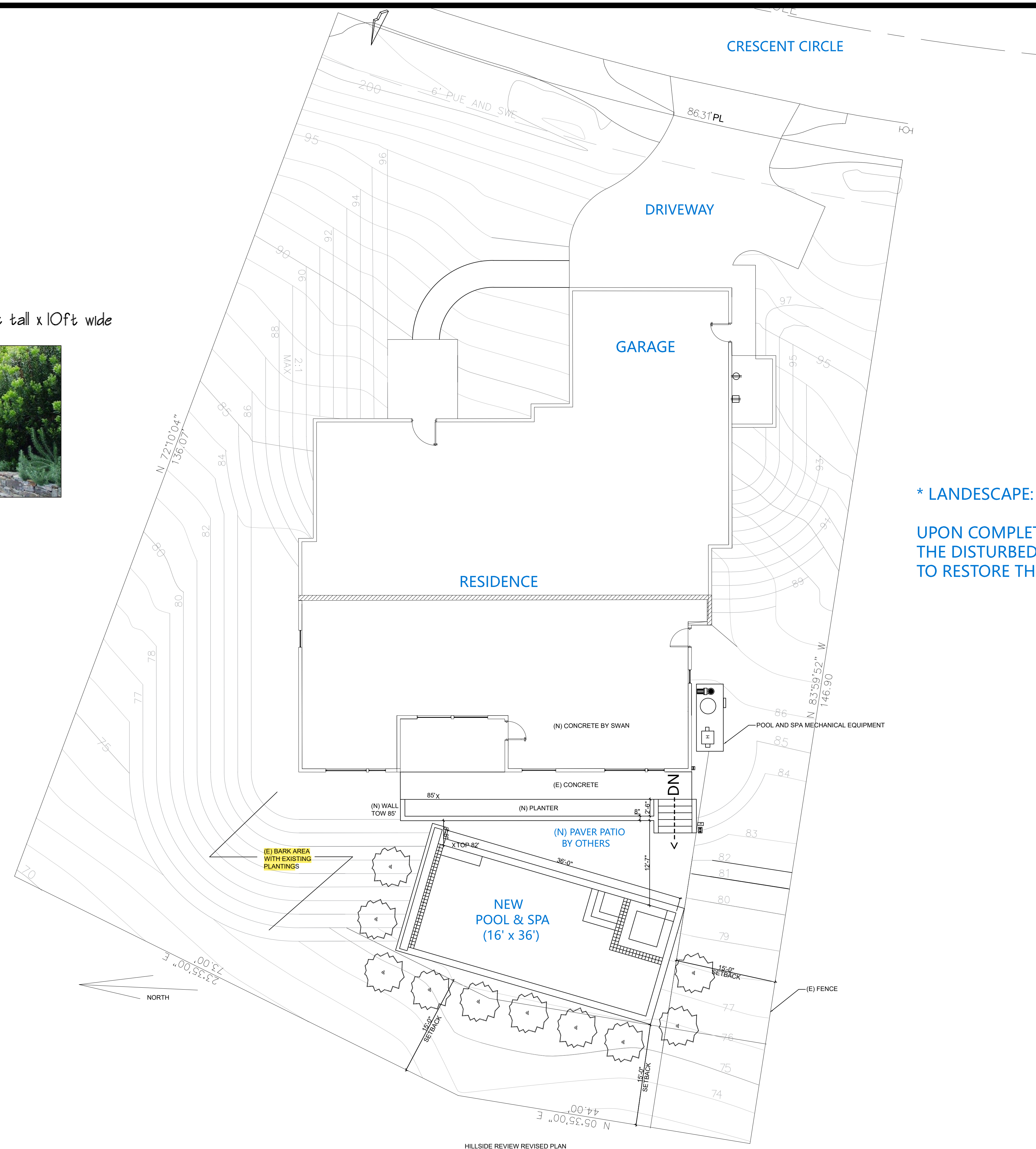
DRAWN: RLV

RLV

NTS

LP

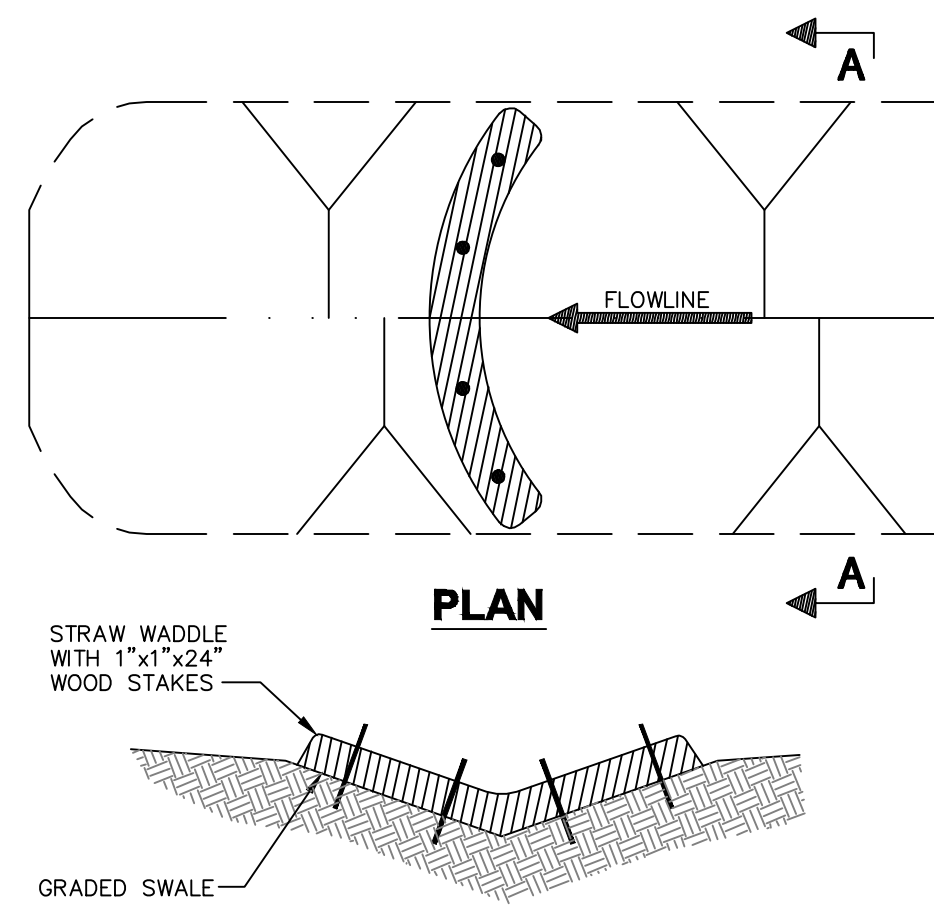
* *Myrica californica*
 * Mature size 12.5ft tall x 10ft wide



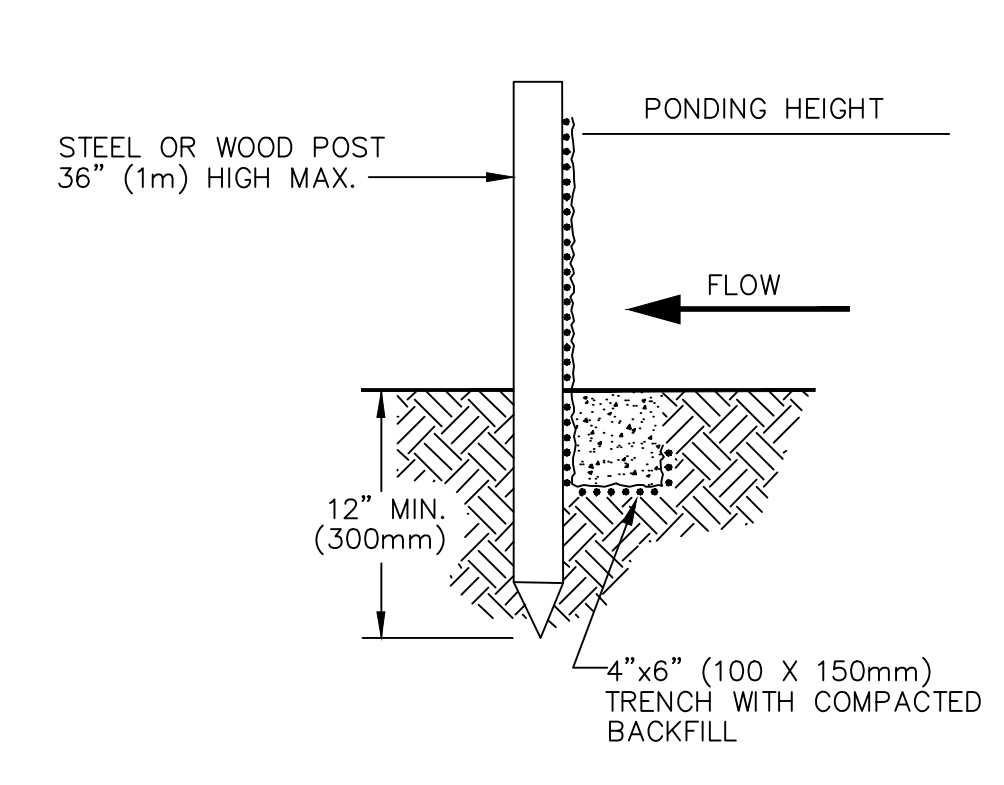
* LANDESCAPE:

UPON COMPLETION OF THE SWIMMING POOL,
 THE DISTURBED AREA WILL BE RE-LANDSCAPING
 TO RESTORE THE SITE AS PER THE FINAL PLAN

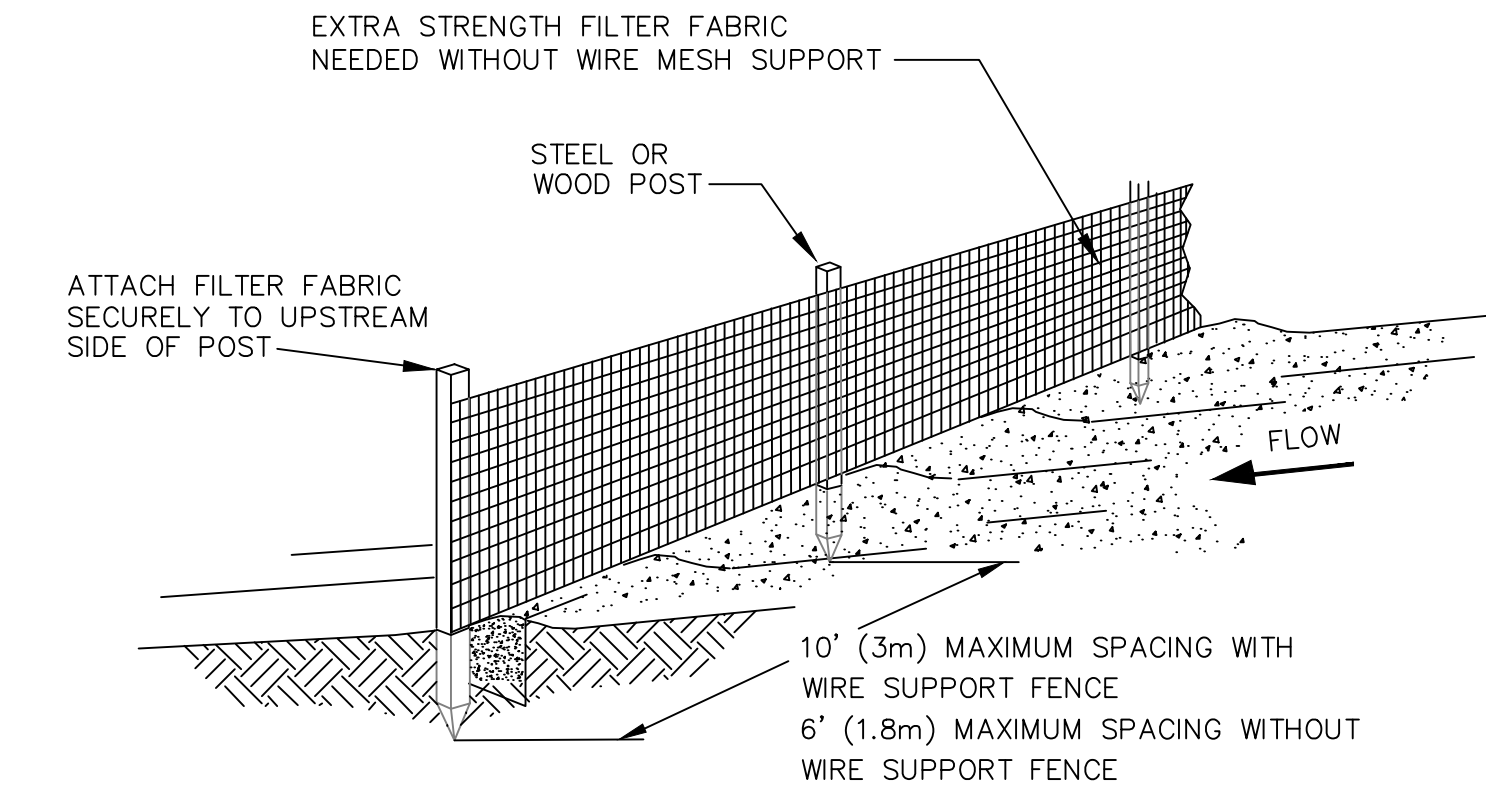
HILLSIDE REVIEW REVISED PLAN



TEMPORARY SILT TRAP DETAIL
NTS

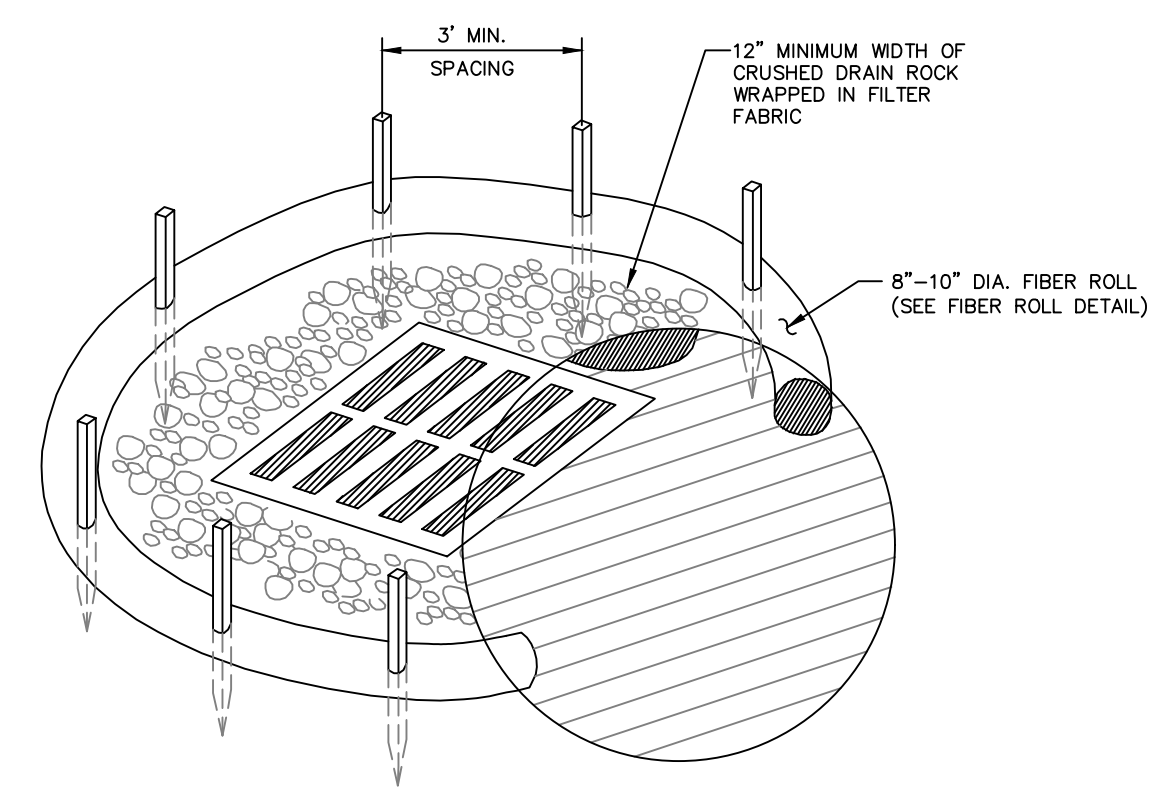


TEMPORARY SILT TRENCH DETAIL
NTS

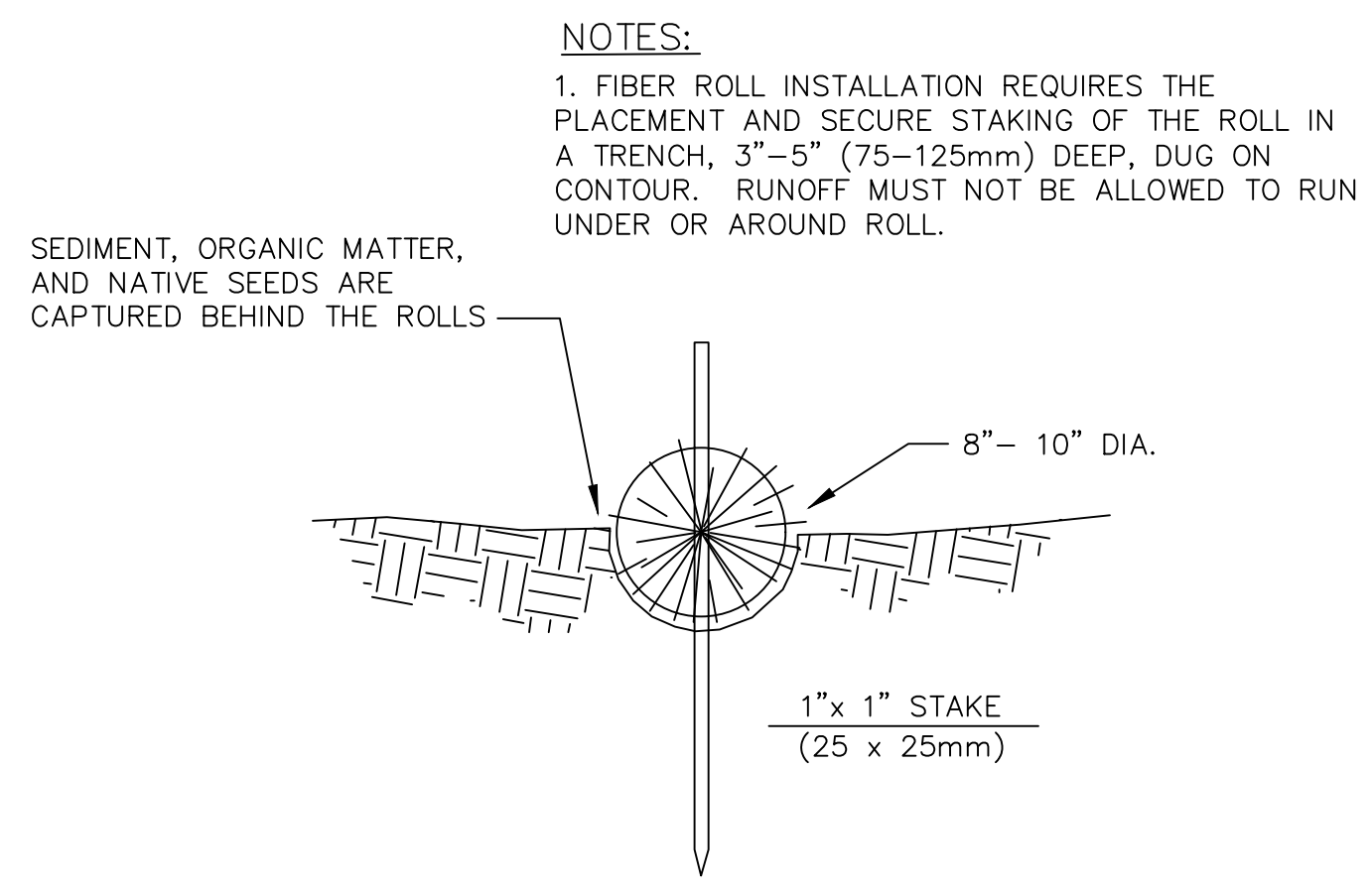


SILT FENCE SEDIMENT CONTROL DETAILS
NTS

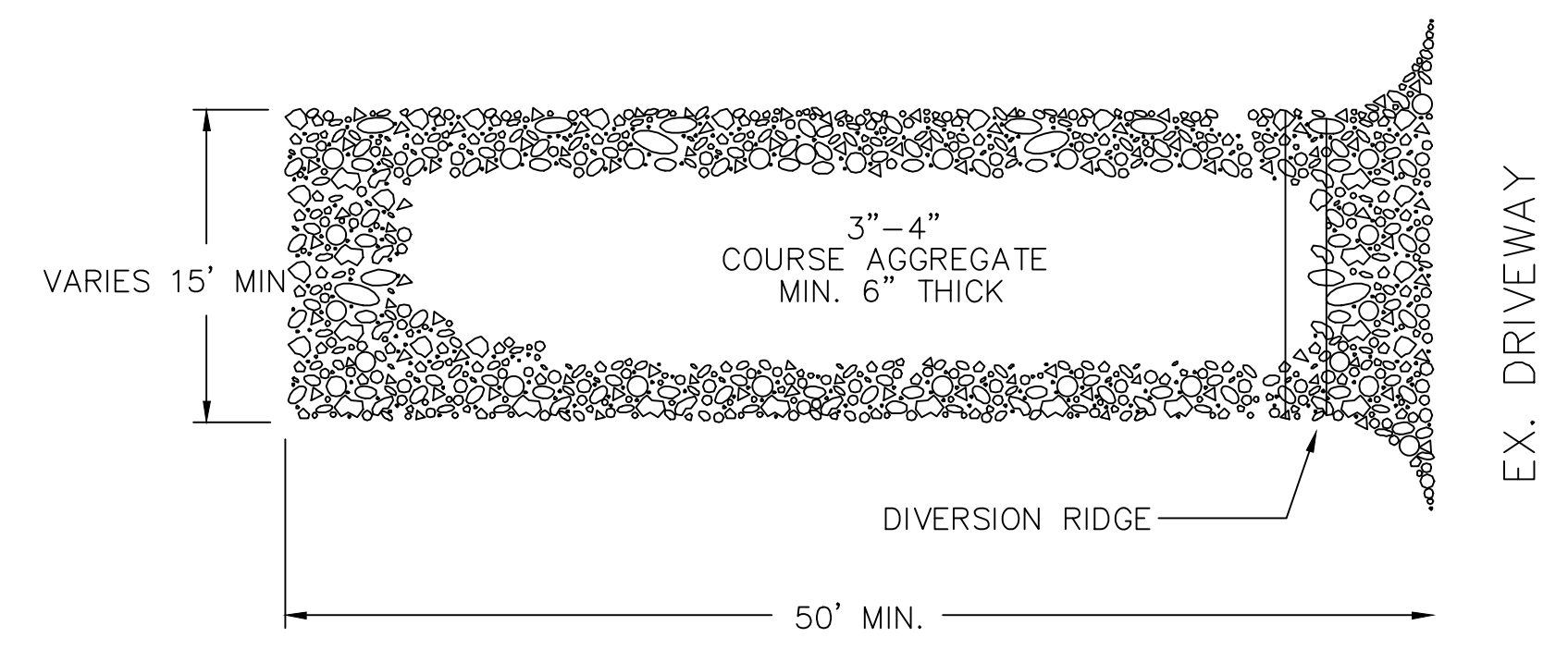
- SILT FENCE NOTES**
1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
 2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" (225mm) MAXIMUM RECOMMENDED STORAGE HEIGHT.
 3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.



FIBER ROLL INLET BARRIER
NTS



FIBER ROLL
NTS



STABILIZED CONSTRUCTION ENTRANCE
NTS

- NOTES:**
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
 3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

NEW SWIMMING POOL

DATE: 6.3.2025

- REV1:
- REV2:
- REV3:
- REV4:
- REV5:
- REV6:

OWNER: NADER EMAMI & SAMAN CHOUBAK
 SITE ADDRESS: 3819 CRESCENT CIRCLE
 CITY: SANTA ROSA, CA 95403
 PHONE: 914.707.9744
 SWAN PM: MIKE MOREY 925-766-9162
 SWAN SALESPERSON: TIM MUTERT
 APN: 173-600-016-000

Swan Pools
 DESIGN ENGINEERING CONSTRUCTION
 2950 CAMINO DIABLO, SUITE 200
 WALNUT CREEK, CA 94597
 (925) 934-7926 FAX (925) 934-5845
 CSLB NO. 775835 C53/C27

EROSION CONTROL DETAILS

DRAWN: HEB

Heidi Bennett

NTS

ECP

CONSTRUCTION SPECIFICATIONS

POOL DIMENSIONS 16' x 36'
 POOL DEPTH 4'-0" to 6'-0"
 POOL AREA: 576 SF
 POOL PERIMETER: 104 LF
 POOL CAPACITY 18,000 GALLONS

EXCAVATION
 GRADING 1 HOUR
 TRASH LOADS 0
 TRACTOR ACCESS TO BE DETERMINED
 POSSIBLE ASSESS THROUGH NEIGHBORING PROPERTY WITH WRITTEN PERMISSION
 DIG FOOTING FOR FREESTANDING WALLS 3 SIDES OF POOL SEE ENGINEERING OVER DIG 12" FOR GRAVEL PACK ON POOL AND SPA FLOOR
 LEAVE WEEP HOLES THROUGH FOOTING

STRUCTURAL
 STEPS 25 LN FT
 3'X3' TOP STEP @-9"
 BENCH 6' @ -21
 AUTO COVER VAULT 13.5 X 13.5 WITH 3" DRAIN STUB OUT
 SEE ENGINEERING FOR FREESTANDING POOL WALL WITH FOOTINGS

PLUMBING
 NUMBER OF RETURNS 3
 SKIMMER STANDARD WITH WATER BOND FOR HYDROCOOL LIGHTS
 POOL SUCTION 40' OF 2"
 POOL RETURN 95' OF 2" TO 1"
 POOL CLEANER 48' OF 1.5"
 SPA SUCTION 65' OF 2.5"
 SPA RETURN AND AIR LINES 65' OF 2" EACH
 FILL LINE .30" OF 3/4"
 IN-GROUND CHECK VALVES ON SUCTION PIPES FOR EQUIPMENT HIGHER THAN POOL LEVEL
 AUTO FILL STANDARD AUTO FILL IS INCLUDED
 NO PLUMBING IN DOWN HILL WALL

ELECTRICAL
 CIRCUIT SIZE: 30 AMP
 MAIN CONDUIT ROUTE IN GROUND
 POOL LIGHTS TO J-BOX 38"-46-54"-68" SPA LIGHT 65"
 EQUIPMENT TO J-BOX 26"
 AUTO COVER EQUIPMENT TO SWITCH 4 WIRES 23"
 AUTO COVER KEY SWITCH TO VAULT 4 WIRES 8"
 AUTO COVER KEY SWITCH LOCATION ON HOUSE
 JANDY IQ-904 POOL AND SPA WEB CONTROL

NATURAL GAS
 80' OF 1.5" INCLUDED IN GROUND

MASONRY
 WATERLINE TILE TERRASINI-BLUE TER-BLUE
 TILE GROUT COLOR STEEL BLUE (CUSTOM)
 PRECAST COPING T.B.D
 CAP BACK OF COVER VAULT *****THIS IS NEEDED BUT NOT SOLD
 17" COPING ON LONG DOWN HILL WALL ONLY
 TILE ON SPA CAP AND COVER BEAM

PATIO BY THE OWNER
 DRAINAGE AROUND THE POOL BY OWNER
 EXTENSION OF DRAIN STUB AT AUTO COVER BY THE OWNER
 MECHANICAL EQUIPMENT SLAB 4' X 8' BY SWAN
 79 LN FT OF 3' RETAINING WALL AND FOOTING BY SWAN
 STEP LANDINGS BETWEEN WALLS BY SWAN
 WALL DRAINAGE BY THE OWNER
 BACK FILL TRENCHES AFTER SITE MEETING BY SWAN
 BONDING REQUIRED PRIOR TO PATIO, PAVERS OR GRASS BY THE OWNER
 MASTIC BY SWAN IF NEEDED

PLASTER
 PLASTER TYPE: WET EDGE LUNA STANDARD COLORS INCLUDED TBD
 PLASTER COLOR TBD

EQUIPMENT
 FILTER PUMP 2.7HP VARIABLE SPEED JANDY STEALTH E-PUMP
 FILTER 460 JANDY CL
 JANDY 400,000 BTU JXI POOL AND SPA HEATER
 CLEANER / BOOSTER PUMP TR28P WITH POLARIS BOOSTER
 JANDY FUSION IN GROUND TABLET AND MINERAL FEEDER
 CONTROLLER JANDY IQ904 WEB CONTROL
 POOL LIGHTS (4) HYDROCOOL NICHELESS COLOR LED LIGHTS AND 1 SPA LIGHT
 LOW VOLTAGE LIGHT TRANSFORMER. 300 WATT
 COVER POOLS SAFE T-4 CHILD SAFETY COVER
 COVER VAULT 14" STAINLESS STEEL BRACKETS
 COVER KEY SWITCH
 COVER FABRIC COLOR T.B.D.
 MAINTENANCE KIT WITH POLE AND BRUSH
 POOL SIDE POOL PATROL SUPPLIED BY SWAN
 FENCES WITH SELF CLOSING GATES. GATES SWING AWAY FROM POOL AREA
 BY THE OWNER
 THE GATE LATCHES MUST BE 5 FEET ABOVE WALKING SURFACE

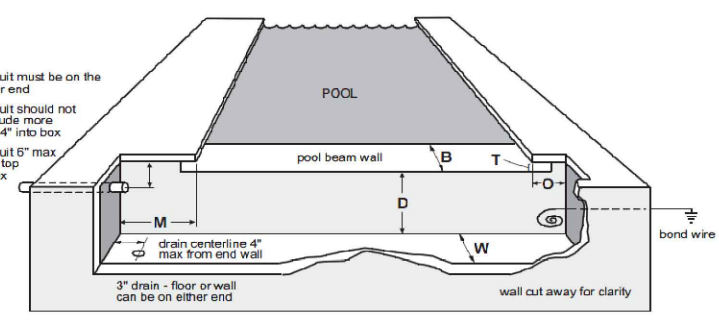
POOL EQUIPPED WITH APPROVED SAFETY POOL COVER MEETING ASTM STANDARD F1346-91 AND AS DEFINED IN SUBDIVISION (D) OF SECTION 115921 OF THE CALIFORNIA HEALTH AND SAFETY CODE 115922

RESIDENCE DOORS THAT PROVIDE ACCESS TO THE SWIMMING POOL AREA WILL BE EQUIPPED WITH EXIT ALARMS THAT CAUSE AN ALARM NOISE AND COMPLY WITH CALIFORNIA HEALTH AND SAFETY CODE 115922.

POOL EQUIPPED WITH AN ALARM THAT, WHEN PLACED IN A SWIMMING POOL OR SPA, WILL SOUND UPON DETECTION OF ACCIDENTAL OR UNAUTHORIZED ENTRANCE INTO THE WATER. THE ALARM SHALL MEET AND BE INDEPENDENTLY CERTIFIED TO THE ASTM STANDARD F2208 AND COMPLY WITH CALIFORNIA HEALTH AND SAFETY CODE 115922.

Recessed Concrete Box—Underside™ Track

Hydraulic system needs one 3/4" conduit.
 Wireless touchpad needs one 3/4" conduit.
 Key switch needs one 3/4" conduit.
 Auto-shutoff needs two conduits:
 One for 120V connection 3/4"
 One for low-voltage wires 3/4"



Underside Track Box Dimensions	MOTOR M	OPPOSITE O	BEAM B	THRUST T	DEPTH D	WIDTH W
Pools under 60 ft. long x 24 ft. wide	32"	10"	8-12"	2" to finished beam	12 1/2"	12 1/2"
Pools over 60 ft. long x 25 ft. wide	32"	10"	8-12"	2" to finished beam	14 1/2"	14 1/2"
Pools over 65 ft. long or 25 ft. wide and vanishing-edge pools — Call Cover-Pools 1-800-447-2838						

Note
 Pool excavation shall be inspected by soils engineer prior to steel placement. As a condition of the use of Pool Engineering, Inc. structural plans, Soils Engineer shall certify that the pool bottom conforms to Structural Note 1 on Standard Pool Structural Plan.

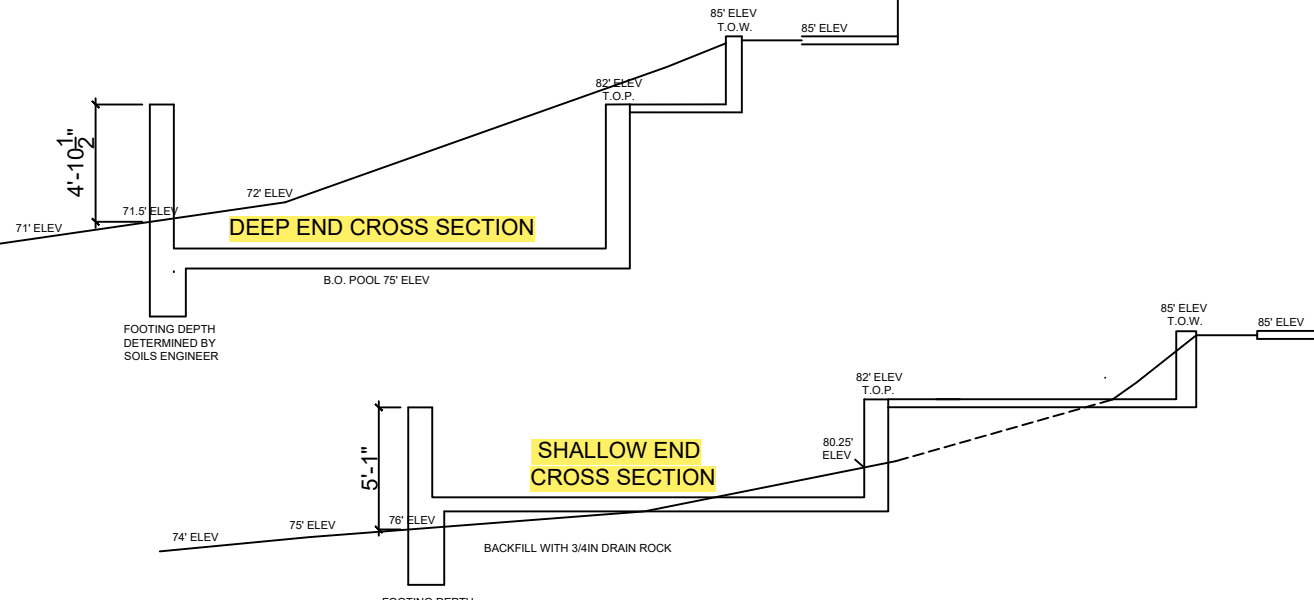
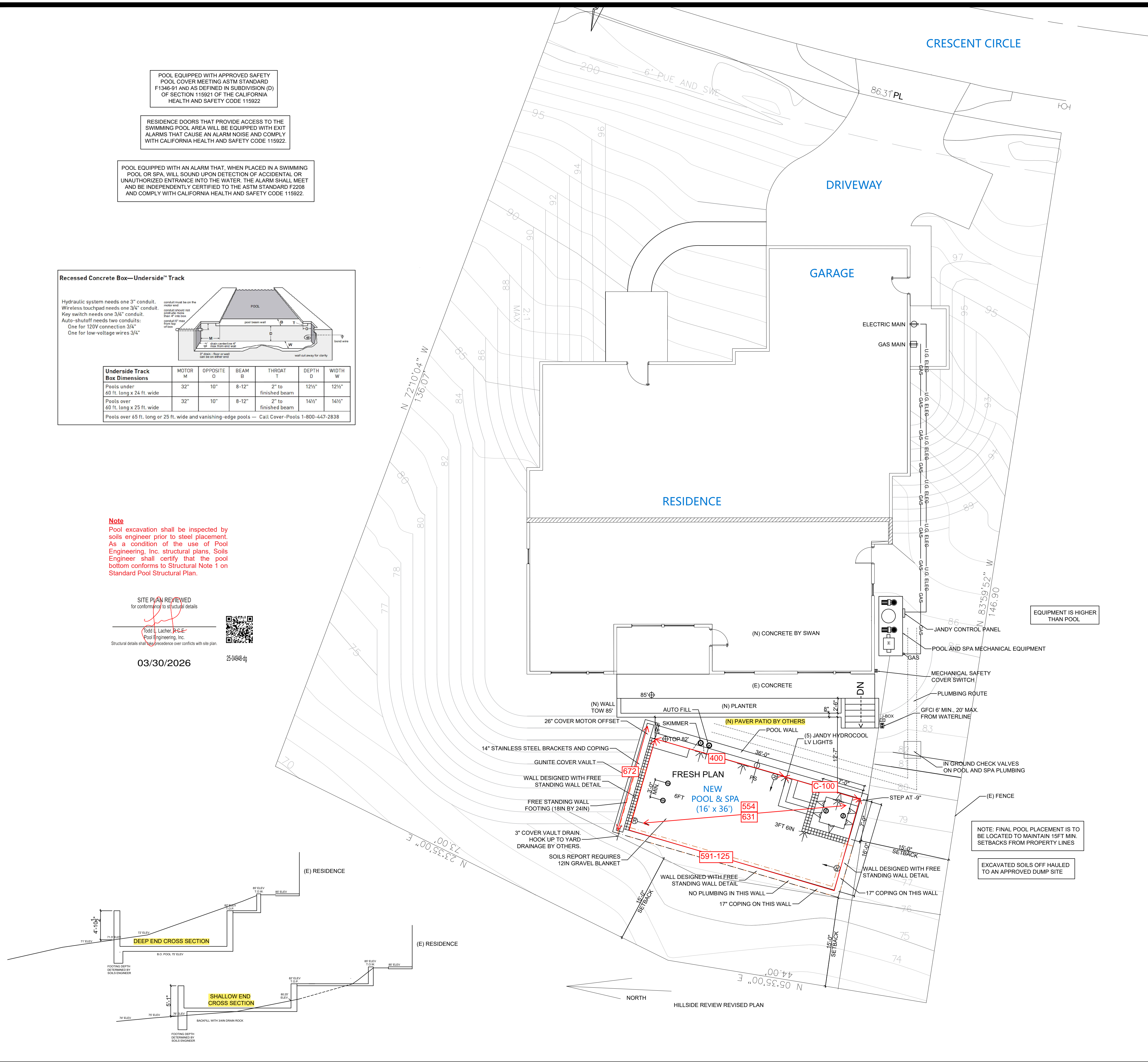
SITE PLAN REVIEWED for conformance to structural details

Todd L. Lacher, P.E.
 Pool Engineering, Inc.
 Structural details that reference over conflicts with site plan.



03/30/2026

25-0498-dg



NEW SWIMMING POOL

DATE: 6.3.2025

REV1: 3.20.2026
 REV2:
 REV3:
 REV4:
 REV5:
 REV6:

OWNER: NADER EMAMI & SAMAN CHOUBAK
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 CSLB NO. 776835 C53/C27

CONSTRUCTION PLAN

DRAWN: HEB

Heidi Bennett

SCALE: 1/8" = 1'-0"

SP1

CALCULATIONS

METHODOLOGY:

(SURCHARGE LOADING BASED ON BOUSSINESQ METHOD, MODIFIED BY TERZAGI FOR TYPICAL BUILDING/FOOTING, 1,000 P.S.F. BEARING PRESSURE).

γ = EQUIVALENT FLUID PRESSURE

$$OTM = 1/6 \gamma H^3 + \sum [(P)(r)]$$

WHERE γ = 60 p.c.f. AND

$$P_i = 1/2(\sigma_i + \sigma_{i-1})(6 \text{ in})$$

r_i = vertical dist. from P_i to z depth.

NET MOM = OTM - RESISTING MOMENT

$$fs = \frac{M(12 \text{ in/ft})}{As j d} = \frac{Mt (12)}{As (0.887) d}$$

$$fc = \frac{M(2) 12 \text{ in/ft}}{j k b d^2}$$

$$= \frac{Mt (2)(12)}{(0.887)(0.339)(12) d^2} < 1125 \text{ psi}$$

$$vc = \frac{(1/2) \gamma H^2}{(12 \text{ in/ft}) j d}$$

$$= \frac{\gamma H^2}{(2)(12)(0.887) d} < 55 \text{ psi}$$

$$f'c = 2,500 \text{ p.s.i.}$$

$$Fs = 20,000 \text{ p.s.i.}$$

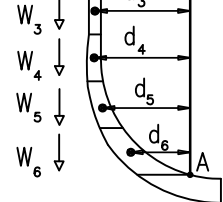
$$fc = 0.45 f'c = 1125 \text{ p.s.i.}$$

$$Vc = 1.1 \sqrt{f'c} = 55 \text{ p.s.i.}$$

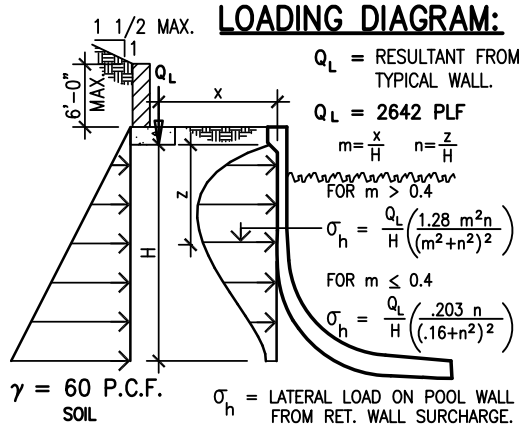
RESISTING MOMENT:

RESISTING MOMENT ABOUT POINT A

$$RM = W_1 d_1 + W_2 d_2 + \dots + W_n d_n$$



LOADING DIAGRAM:



CALCULATION RESULTS:

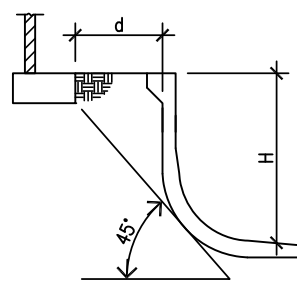
RETAINING WALL SURCHARGE, E.F.P. = 60 P.C.F. RESULTS FOR 'X' = 1'-0" W/ NO RAISED BOND BEAM

DEPTH 'D'	SOIL OTM ft-#	LOAD OTM ft-#	SOIL RM ft-#	NET Mom	t	VERTICAL STEEL	fs p.s.i.	fc p.s.i.	vc p.s.i.
2'-0"	80	56	78	95	6"	#3 @ 12"	3985	110	8.3
2'-6"	156	176	89	349	7"	#3 @ 6"	5492	189	11.2
3'-6"	429	674	123	1301	9"	"	13191	356	14.8
4'-6"	911	1486	214	2710	10"	#3 @ 3"	11981	440	19.0
5'-6"	1664	2531	443	4329	11"	"	16589	562	21.8
6'-6"	2746	3734	925	5755	13"	add 3 #4	11280	439	21.6
7'-6"	4219	5045	1935	7329	13"	"	14367	560	26.0
8'-6"	6141	6431	6214	6358	13 1/2"	"	11828	447	29.1

RESULTS FOR 'X' = 1'-0" W/ 2'-6" RAISED BOND BEAM

HEIGHT 'H'	SOIL OTM ft-#	LOAD OTM ft-#	SOIL RM ft-#	NET Mom	t	VERTICAL STEEL	fs p.s.i.	fc p.s.i.	vc p.s.i.
2'-0"	80	33	78	95	6"	#3 @ 12"	3985	110	6.4
2'-6"	156	106	89	349	7"	#3 @ 6"	5492	189	8.5
3'-6"	429	433	123	1301	9"	"	13191	356	11.9
4'-6"	911	1021	172	2784	10"	#3 @ 3"	12307	452	16.1
5'-6"	1664	1839	227	4739	11"	"	18160	615	19.5
6'-6"	2746	2839	320	6770	13"	add 3 #4	13270	517	20.0
7'-6"	4219	3976	582	8536	13"	"	16731	652	24.6
8'-6"	6141	5215	1127	10532	13 1/2"	"	19591	741	28.0
9'-0"	7290	5864	1563	11674	13 1/2"	add 3 #5	15116	723	30.6
10'-0"	10000	7211	3023	14187	13 1/2"	"	18370	879	35.8
11'-0"	13310	8608	8719	13200	14"	"	16251	755	39.4

THIS DETAIL IS NOT NEEDED WHEN 'd' IS GREATER THAN 'H'.



SHORING NOTES:

- THIS PLAN DEPICTS THE STRUCTURES IN A COMPLETED STATE ONLY. THE INSTALLER IS RESPONSIBLE FOR JOB SITE CONDITIONS AND THE SAFETY OF ALL PERSONS & PROPERTY DURING THE COURSE OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND PROVIDING BRACING DURING CONSTRUCTION AND/OR ERECTION TO SUPPORT ALL LOADS TO WHICH THE STRUCTURES AND SUPPORTING SOIL MAY BE SUBJECTED.

TABLE 400

'D' OR 'H' IS DISTANCE FROM TOP OF POOL WALL DOWNWARD. BEGIN SPECIFIED STEEL & GUNITE THICKNESS AT INDICATED 'D' OR 'H' DEPTH. (SEE STANDARD STRUCTURAL PLAN, DETAIL #2)

POOL DEPTH	NO R.B.B.		REQ'D TRANS.
	D	C	
0 to 2'0"	3"	#3 @ 12"	2'-0"
2'-6"	4"	#3 @ 6"	2'-0"
3'-6"	6"	"	2'-0"
4'-0"	7"	"	2'-0"
4'-6"	7"	#3 @ 3"	2'-5"
5'-0"	7"	"	2'-10"
6'-0"	9"	"	3'-2"
6'-6"	9 1/2"	add 3 #4	3'-3"
7'-6"	9 1/2"	"	3'-3"
8'-0"	9 1/2"	"	3'-3"
8'-6"	10"	"	3'-3"

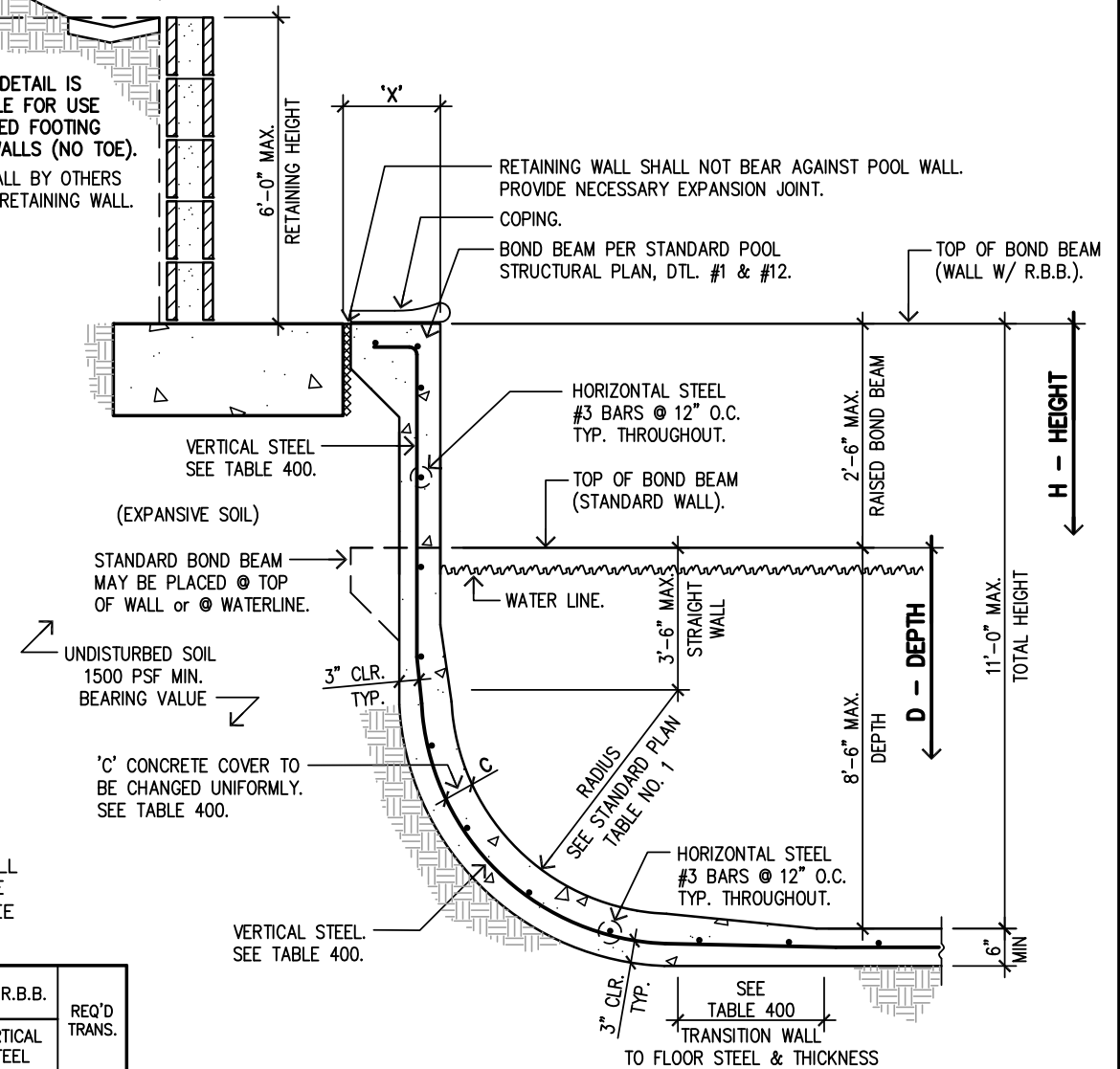
SEE ADD BARS DIAGRAM

TOTAL HEIGHT	2'-6" MAX. R.B.B.		REQ'D TRANS.
	H	C	
0 to 2'0"	3"	#3 @ 12"	2'-0"
2'-6"	4"	#3 @ 6"	2'-0"
3'-6"	6"	"	2'-0"
4'-0"	7"	"	2'-0"
4'-6"	7"	#3 @ 3"	2'-5"
5'-0"	7"	"	3'-2"
6'-0"	9"	"	4'-3"
6'-6"	9 1/2"	add 3 #4	4'-8"
7'-6"	9 1/2"	"	4'-11"
8'-0"	9 1/2"	"	4'-11"
8'-6"	10"	"	4'-11"
9'-0"	10"	add 3 #5	4'-11"
10'-0"	10"	"	5'-0"
10'-6"	10 1/2"	"	5'-2"
11'-0"	10 1/2"	"	5'-3"

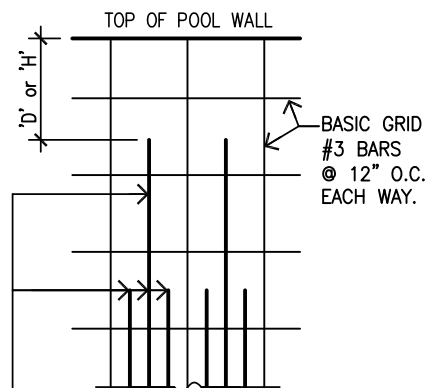
SEE ADD BARS DIAGRAM

UP TO 1 1/2:1 SLOPE or FLAT BACKFILL.

NOTE: THIS DETAIL IS NOT SUITABLE FOR USE WITH INVERTED FOOTING RETAINING WALLS (NO TOE). RETAINING WALL BY OTHERS OR EXISTING RETAINING WALL.



TYPICAL ADD BAR REINFORCING DIAGRAM



VERTICAL REINFORCEMENT AS SPECIFIED IN TABLE STARTS A DISTANCE 'D' OR 'H' DOWN FROM TOP OF POOL WALL. REINFORCEMENT OTHER THAN BASIC GRID NEED NOT EXTEND TO TOP OF POOL WALL. ADD BARS TO BE EQUALLY SPACED BETWEEN BASIC GRID.

FOR USE ONLY AT:
3619 Crescent Cir
Santa Rosa, CA 95403-0914



03/30/2026

RETAINING WALL SURCHARGE UPSLOPE OR LEVEL BACKFILL
MAX. FOOTING BEARING PRESSURE = 1,500 P.S.F.
EQUIVALENT FLUID PRESSURE = 60 P.C.F.

25-04948-dg

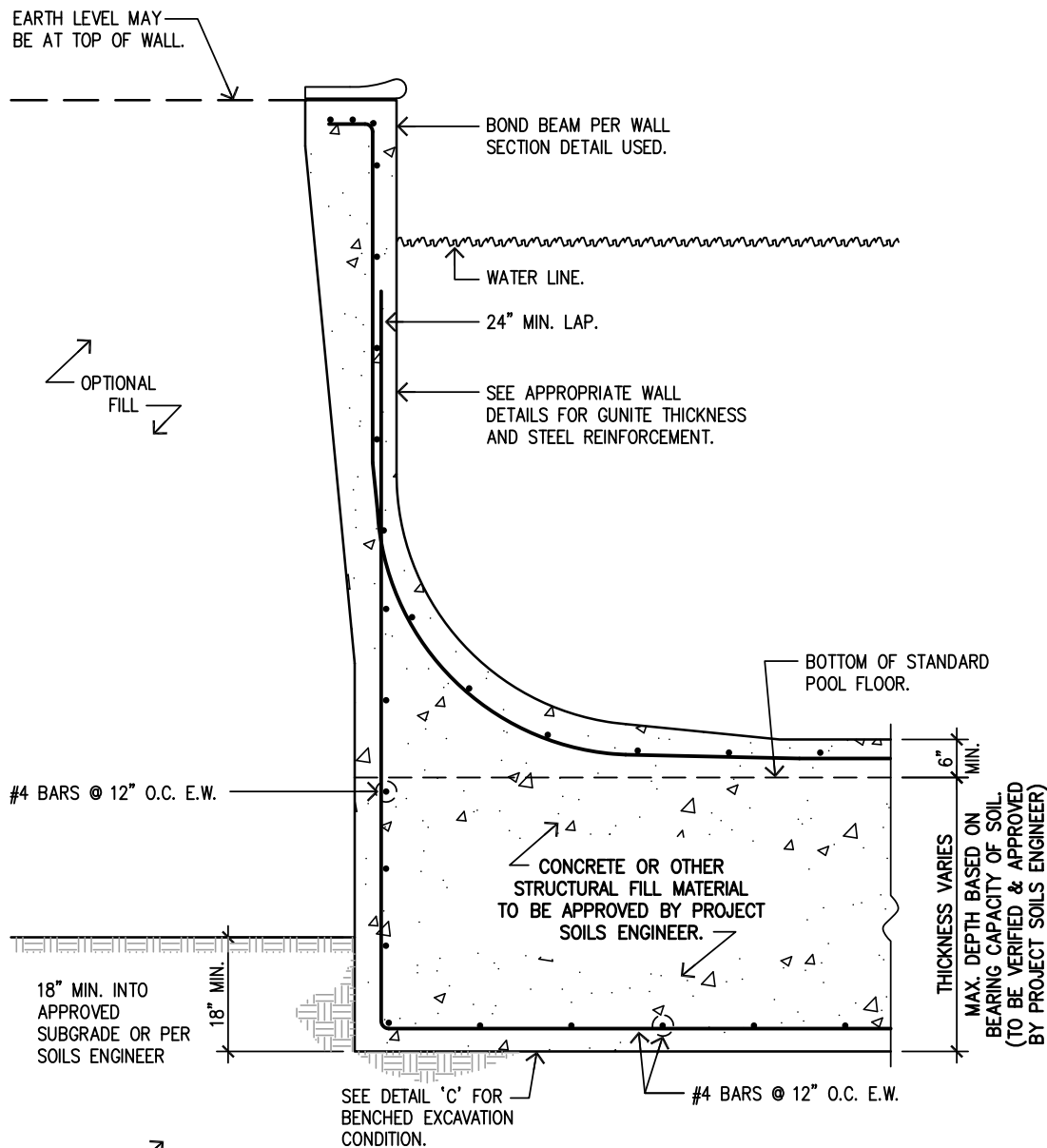
DETAIL #400

Ron Lacher, R.C.E.
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Anaheim, CA 92807
(714) 630-6100
info@pooleng.com

pool engineering inc.

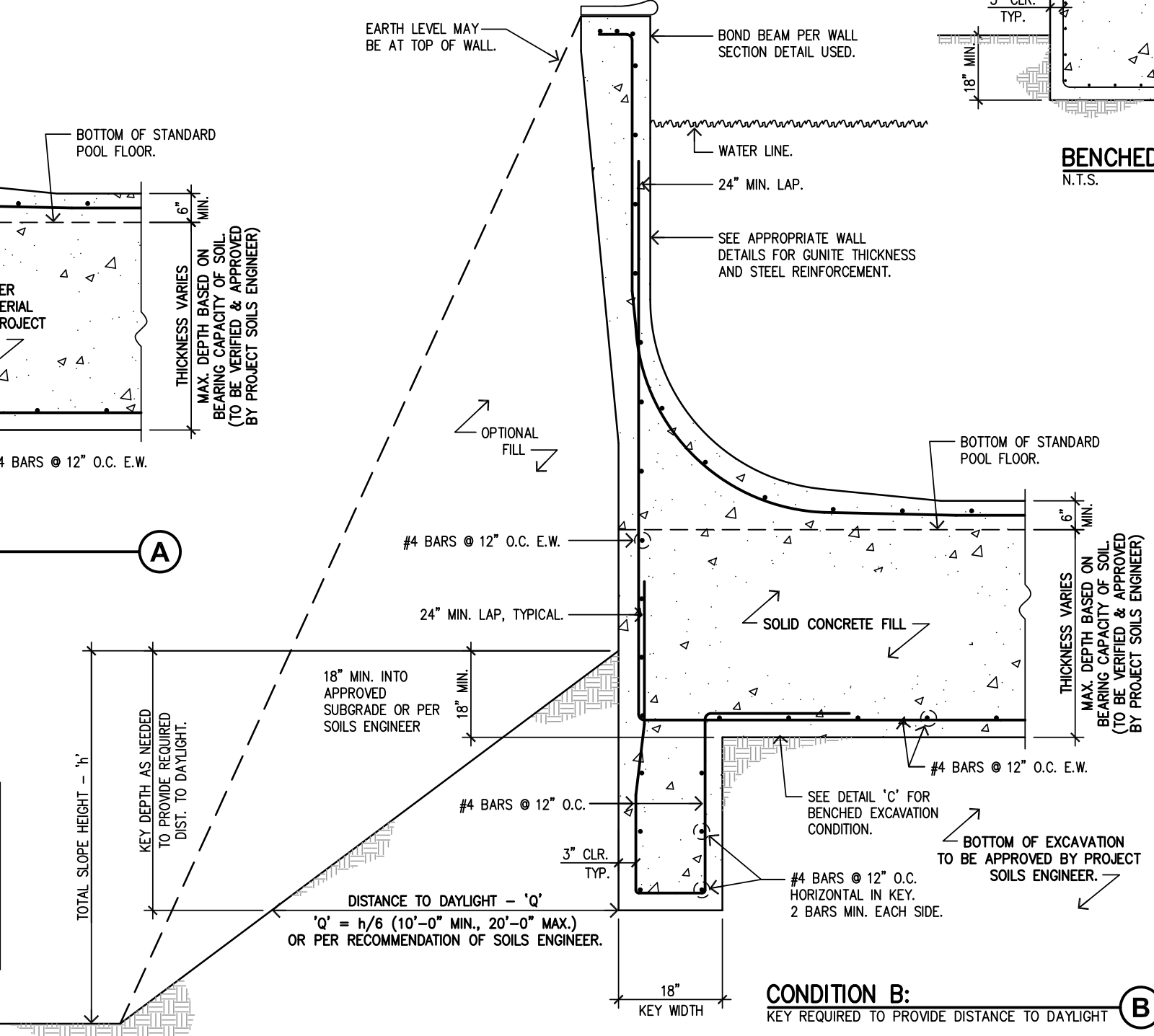


PLAN VALID ONLY WITH EMBEDDED QR CODE ON DETAIL, WHICH WHEN SCANNED DISPLAYS THE INTENDED PROJECT ADDRESS
THIS DETAIL TO BE USED IN CONJUNCTION WITH STANDARD POOL STRUCTURAL PLAN

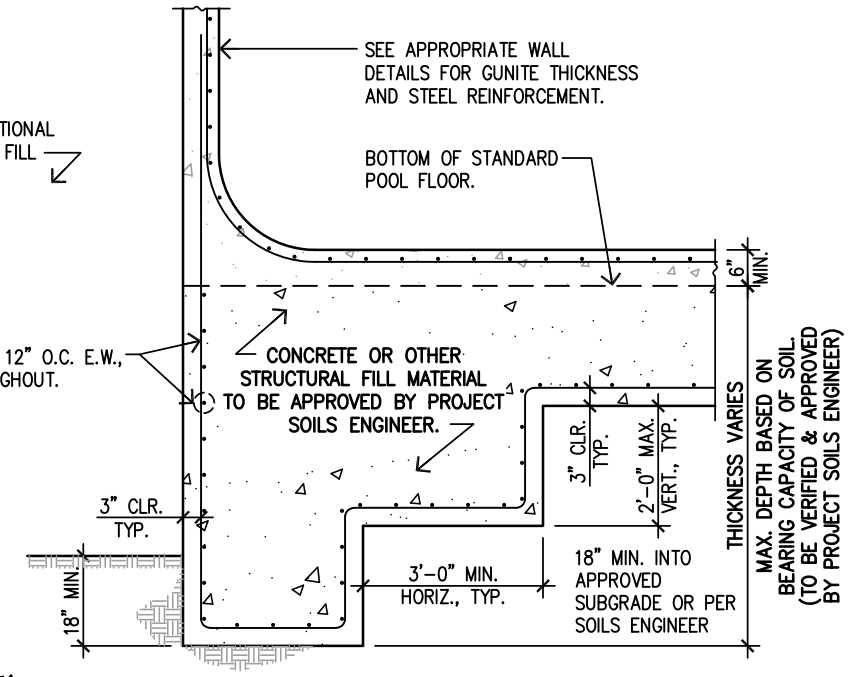


CONDITION A:
KEY NOT REQUIRED

STANDARD POOL STRUCTURAL PLAN, STRUCTURAL NOTE #1 IS REPEATED HERE FOR EMPHASIS:
1. SOIL SHALL HAVE A MINIMUM BEARING VALUE OF 1,500 P.S.F. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL OR BUILDING DEPARTMENT APPROVED 90% COMPACT FILL. THIS PLAN IS NOT SUITABLE WHERE POTENTIAL EXISTS FOR DIFFERENTIAL MOVEMENT FROM DISSIMILAR SOIL CONDITIONS UNDER POOL, SUCH AS CUT-FILL TRANSITIONS.



CONDITION B:
KEY REQUIRED TO PROVIDE DISTANCE TO DAYLIGHT



BENCHED EXCAVATION
N.T.S.

- NOTES
1. ALL STEEL SHALL BE 3" CLR. FROM EARTH.
 2. ALL LAPS TO BE 24" MIN. UNLESS OTHERWISE NOTED.

FOR USE ONLY AT:
3619 Crescent Cir
Santa Rosa, CA 95403-0914



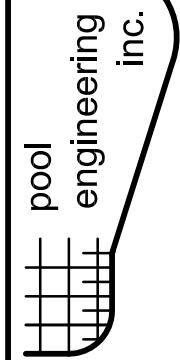
03/30/2026

DEEPEMED POOL EXCAVATION

25-04948-dg

DETAIL #554

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Anaheim, CA 92807
(714) 630-6100
info@pooleng.com



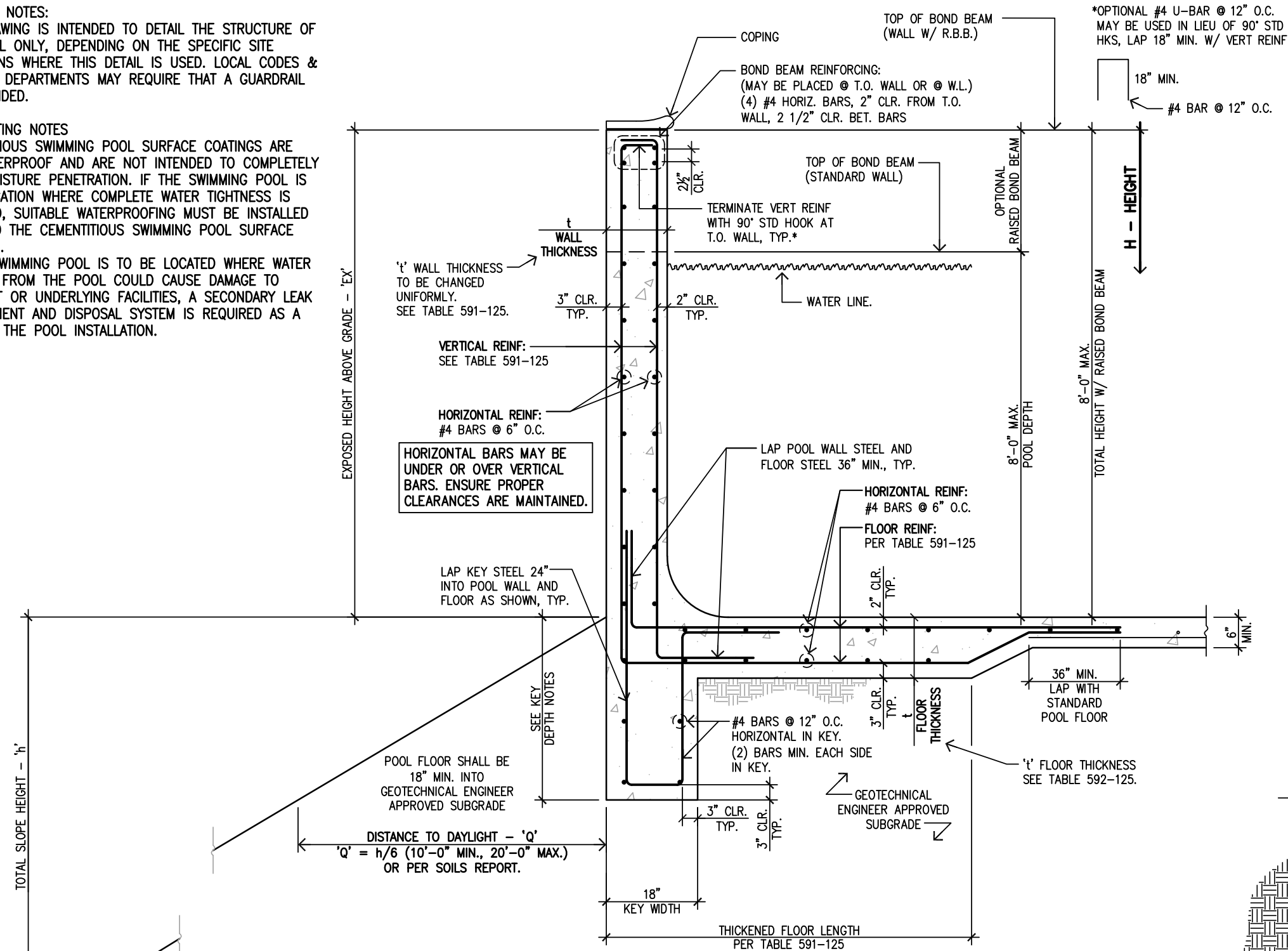
PLAN VALID ONLY WITH EMBEDDED QR CODE ON DETAIL, WHICH WHEN SCANNED DISPLAYS THE INTENDED PROJECT ADDRESS
THIS DETAIL TO BE USED IN CONJUNCTION WITH STANDARD POOL STRUCTURAL PLAN

STRUCTURAL NOTES:

1. THIS DRAWING IS INTENDED TO DETAIL THE STRUCTURE OF THE POOL ONLY, DEPENDING ON THE SPECIFIC SITE CONDITIONS WHERE THIS DETAIL IS USED. LOCAL CODES & BUILDING DEPARTMENTS MAY REQUIRE THAT A GUARDRAIL BE PROVIDED.

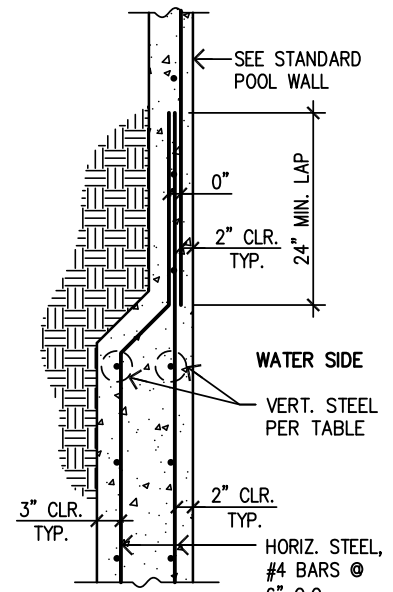
WATERPROOFING NOTES

1. CEMENTITIOUS SWIMMING POOL SURFACE COATINGS ARE NOT WATERPROOF AND ARE NOT INTENDED TO COMPLETELY STOP MOISTURE PENETRATION. IF THE SWIMMING POOL IS IN A LOCATION WHERE COMPLETE WATER TIGHTNESS IS REQUIRED, SUITABLE WATERPROOFING MUST BE INSTALLED PRIOR TO THE CEMENTITIOUS SWIMMING POOL SURFACE COATINGS.
2. IF THE SWIMMING POOL IS TO BE LOCATED WHERE WATER LEAKAGE FROM THE POOL COULD CAUSE DAMAGE TO ADJACENT OR UNDERLYING FACILITIES, A SECONDARY LEAK CONTAINMENT AND DISPOSAL SYSTEM IS REQUIRED AS A PART OF THE POOL INSTALLATION.



HORIZONTAL BARS MAY BE UNDER OR OVER VERTICAL BARS. ENSURE PROPER CLEARANCES ARE MAINTAINED.

KEY DEPTH NOTES:
 KEY DEPTH SHALL BE DETERMINED BY THE GREATER OF THE FOLLOWING TWO CONDITIONS:
 1. DEPTH SHALL BE EQUAL TO POOL WALL EXPOSED HEIGHT ABOVE GRADE MULTIPLIED BY 3/4, 'EX' * 3/4.
 2. DISTANCE TO DAYLIGHT - 'Q' DUE TO DOWNSLOPE. 'Q' = h/6 (10'-0\"/>



TYPICAL TRANSITION 12\"/>

NOTES

1. ALL STEEL SHALL BE 3\"/>

TABLE 591-125

'H' IS DISTANCE FROM TOP OF POOL WALL DOWNWARD. BEGIN SPECIFIED STEEL & GUNITE THICKNESS AT INDICATED 'H' DEPTH. (SEE STANDARD STRUCTURAL PLAN, DETAIL #2)

TOTAL HEIGHT	POOL WALL SCHEDULE		THICKEN FLOOR LENGTH
	H	t	
0 to 0'-6"	12"	#4 @ 6"	3'-0"
1'-0"	12"	"	3'-0"
1'-6"	12"	"	3'-0"
2'-0"	12"	"	3'-0"
2'-6"	12"	"	3'-0"
3'-0"	12"	#5 @ 6"	3'-0"
3'-6"	12"	"	3'-0"
4'-0"	12"	"	3'-0"
4'-6"	12"	"	3'-6"
5'-0"	12"	"	4'-0"
5'-6"	12"	"	4'-6"
6'-0"	12"	"	4'-6"
6'-6"	12"	"	5'-0"
7'-0"	12"	"	5'-6"
7'-6"	13"	"	6'-0"
8'-0"	14"	"	6'-6"

FOR USE ONLY AT:
 3619 Crescent Cir
 Santa Rosa, CA 95403-0914



03/30/2026

FREESTANDING POOL WALL OUT OF GRADE
 W/ DESCENDING SLOPE CONDITION
 EQUIVALENT FLUID PRESSURE = 125 P.C.F.
 PLUS HYDRO DYNAMIC LOADING

PLAN VALID ONLY WITH EMBEDDED QR CODE ON DETAIL, WHICH WHEN SCANNED DISPLAYS THE INTENDED PROJECT ADDRESS
 THIS DETAIL TO BE USED IN CONJUNCTION WITH STANDARD POOL STRUCTURAL PLAN

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pool engineering inc.



A. DISCHARGE BY SUMP PUMP (WITHIN THE HYDRO-TOWER SUMP PUMP):

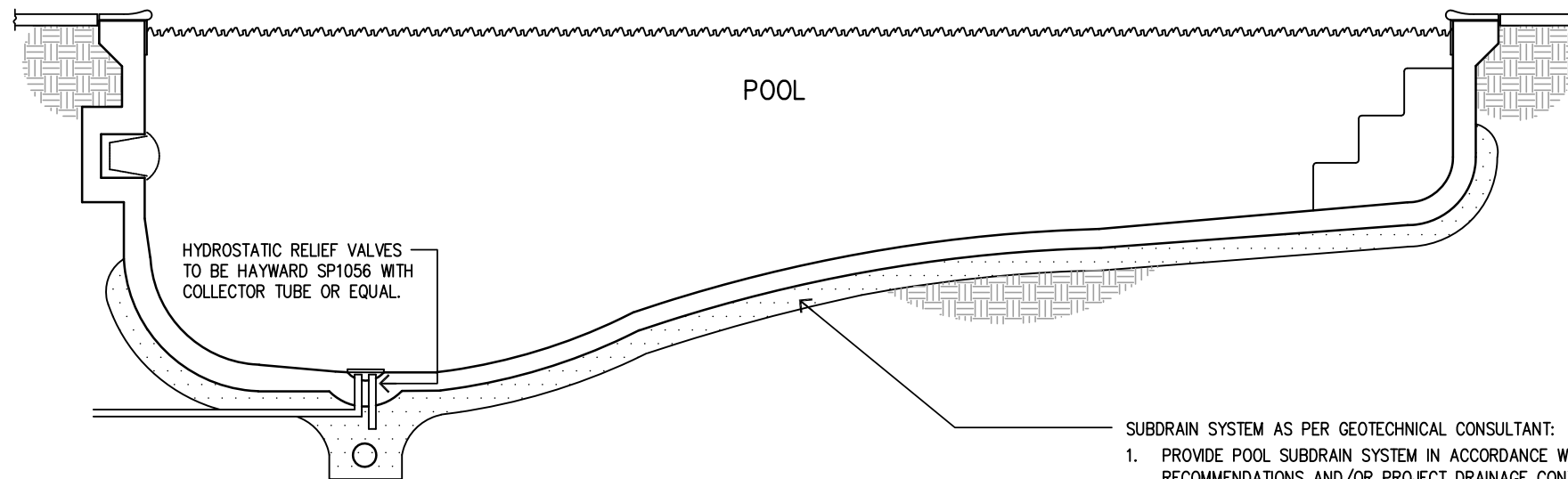
1. THE CLOSED PIPE SHALL HAVE GRAVITY FLOW TO A HYDRO-TOWER STANDPIPE LOCATED AS DIRECTED BY THE PROJECT GEOTECHNICAL ENGINEER.
2. WHERE A SUMP PUMP IS EMPLOYED THE PUMP SHALL BE SELF-ACTUATING TO PREVENT A BUILD-UP OF WATER WITHIN THE DRAINAGE BLANKET.
3. THE SUMP PUMP SHALL HAVE A VISIBLE POINT OF DRAINAGE. THIS WILL ALLOW FOR RELATIVE EASE IN DETECTING A POTENTIAL LEAK IN THE UNDER-DRAINED STRUCTURE.
4. THE SUMP PUMP SHALL NOT BE ALLOWED TO FREE DRAIN IN LANDSCAPE AREAS BUT SHALL BE DIRECTED TO DISCHARGE INTO AN AREA DRAIN.
5. IF THE DRAINAGE BLANKET IS NOT AUTOMATICALLY DRAINED, A LEAKING STRUCTURE MAY GO UNDETECTED AND THE SLOPE COULD BECOME SATURATED.
6. SUMP PUMPS SHALL BE CHECKED ON A FREQUENT BASIS TO SEE THAT THE AUTOMATIC DEVICES ARE FUNCTIONING PROPERLY.

B. DISCHARGE THROUGH SLOPE FACE (WHERE ALLOWED AND APPROPRIATE):

1. WHERE A DISCHARGE PIPE IS LEADING TO A DISCHARGE POINT AT THE FACE OF AN ADJACENT SLOPE IS TO BE CONSTRUCTED, IT SHALL BE UNDERSTOOD THAT THE UNDERDRAIN IS INTENDED TO SERVE AS AN "EMERGENCY" RELEASE TO REDUCE THE POTENTIAL FOR THE BUILD-UP OF HYDROSTATIC PRESSURE BENEATH THE POOL AND TO REDUCE THE POTENTIAL FOR SATURATION OF THE SLOPE AS A RESULT OF A LEAK IN THE SWIMMING POOL.
2. PROLONGED SEEPAGE SHALL NOT BE ALLOWED TO DRAIN ONTO THE SLOPE. THE DISCHARGE PIPE SHALL TERMINATE IN A MANNER APPROVED BY THE PROJECT SOILS ENGINEER.
3. TRENCH EXCAVATION NECESSARY FOR INSTALLATION OF THE DISCHARGE PIPE THROUGH THE SLOPE FACE MUST BE BACKFILLED UNDER THE SUPERVISION OF THE PROJECT SOILS ENGINEER.
4. TO PREVENT THE MIGRATION OF WATER COLLECTED IN THE DRAINAGE BLANKET INTO THE TRENCH BACKFILL WHICH SURROUNDS THE CLOSED PIPE LEADING TO THE FACE OF THE SLOPE AND DISCHARGE POINT, A SEEPAGE CUT-OFF OR "DAM" SHALL BE CONSTRUCTED.
5. SUMP PUMPS SHALL BE CHECKED ON A FREQUENT BASIS TO SEE THAT THE AUTOMATIC DEVICES ARE FUNCTIONING PROPERLY.
 - A) THIS SEEPAGE CUT-OFF SHALL SURROUND THE CLOSED PIPE AND SHALL BE LOCATED ALONG THE FIRST THREE FEET OF PIPE WHERE THE CLOSED PIPE MEETS THE DRAINAGE BLANKET.
 - B) BACKFILLING OF THE LOWER TWO FEET OF THE TRENCH IN THIS LOCATION WITH EITHER LOW PERMEABILITY (EXPANSIVE) CLAYS OR CONCRETE WILL PROVIDE THE DESIRED CUT-OFF. THE INSTALLATION OF THE SEEPAGE CUT-OFF SHALL BE SUPERVISED BY THE PROJECT SOILS ENGINEER PRIOR TO TRENCH BACKFILL.

RESPONSIBILITY OF THE OWNER TO MONITOR UNDER-DRAIN SYSTEM:

1. IT IS THE RESPONSIBILITY OF THE OWNER TO FREQUENTLY MONITOR THE UNDER-DRAIN SYSTEM.
2. IN THE EVENT THAT PROLONGED OR LONG TERM SEEPAGE IS NOTED AT THE UNDER-DRAIN DISCHARGE POINT, THE SOURCE OF THE WATER MUST BE INVESTIGATED.
3. TESTING OF THE WATER FOR THE PRESENCE OF CHLORINE AND/OR MONITORING THE WATER LOSS IN THE POOL, SPA, OR WATER FEATURE SHOULD AID IN IDENTIFYING A LEAKING STRUCTURE.
 - A) IF IT IS DETERMINED THAT THE POOL STRUCTURE IS LEAKING, IMMEDIATE REPAIR MUST BE UNDERTAKEN.
 - B) IN THE EVENT THAT THE STRUCTURE IS NOT LEAKING AND THE SOURCE OF WATER APPEARS TO BE RELATED TO GROUNDWATER, THE PROJECT ENGINEER SHALL BE CONTACTED.



SUBDRAIN SYSTEM AS PER GEOTECHNICAL CONSULTANT:

1. PROVIDE POOL SUBDRAIN SYSTEM IN ACCORDANCE WITH PROJECT GEOTECHNICAL RECOMMENDATIONS AND/OR PROJECT DRAINAGE CONTROL PLANS. REFER TO APPLICABLE GEOTECHNICAL REPORT, RECOMMENDATIONS OR SCHEMATICS FOR SPECIFIC SUBDRAIN SYSTEM INSTALLATION AND OPERATION.
2. INSTALLATION OF SUBDRAIN SYSTEM SHALL BE IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL CONSULTANT'S RECOMMENDATIONS AND SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL CONSULTANT PRIOR TO REINFORCING STEEL PLACEMENT.
3. SUBDRAIN SYSTEM INSTALLATION AND OPERATION SHALL BE COORDINATED WITH SITE DRAINAGE AS APPROPRIATE.

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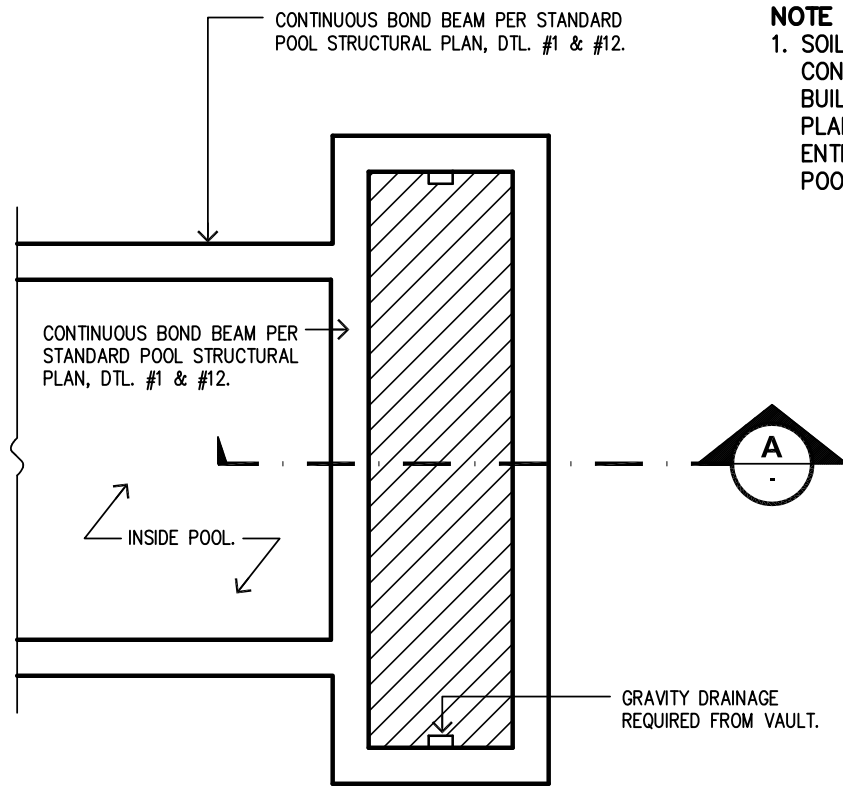
03/30/2026

PLAN VALID ONLY WITH EMBEDDED QR CODE ON DETAIL, WHICH WHEN SCANNED DISPLAYS THE INTENDED PROJECT ADDRESS
THIS DETAIL TO BE USED IN CONJUNCTION WITH STANDARD POOL STRUCTURAL PLAN

POOL SUBDRAIN SYSTEM
SPECIFICATIONS PER GEOTECHNICAL REPORT

25-04948-dg

DETAIL #631



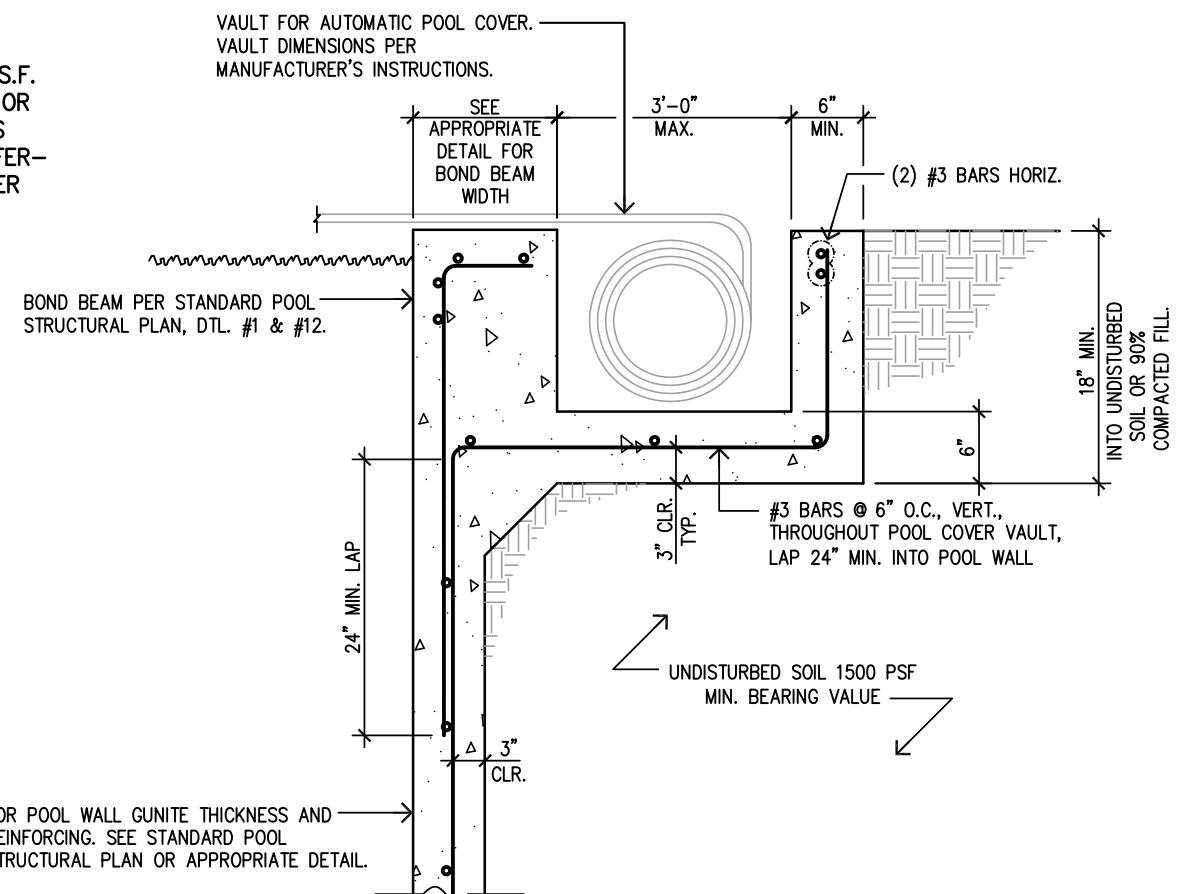
VAULT DIMENSIONS PER MANUFACTURER'S INSTRUCTIONS.

VAULT PLAN VIEW
NO SCALE

B

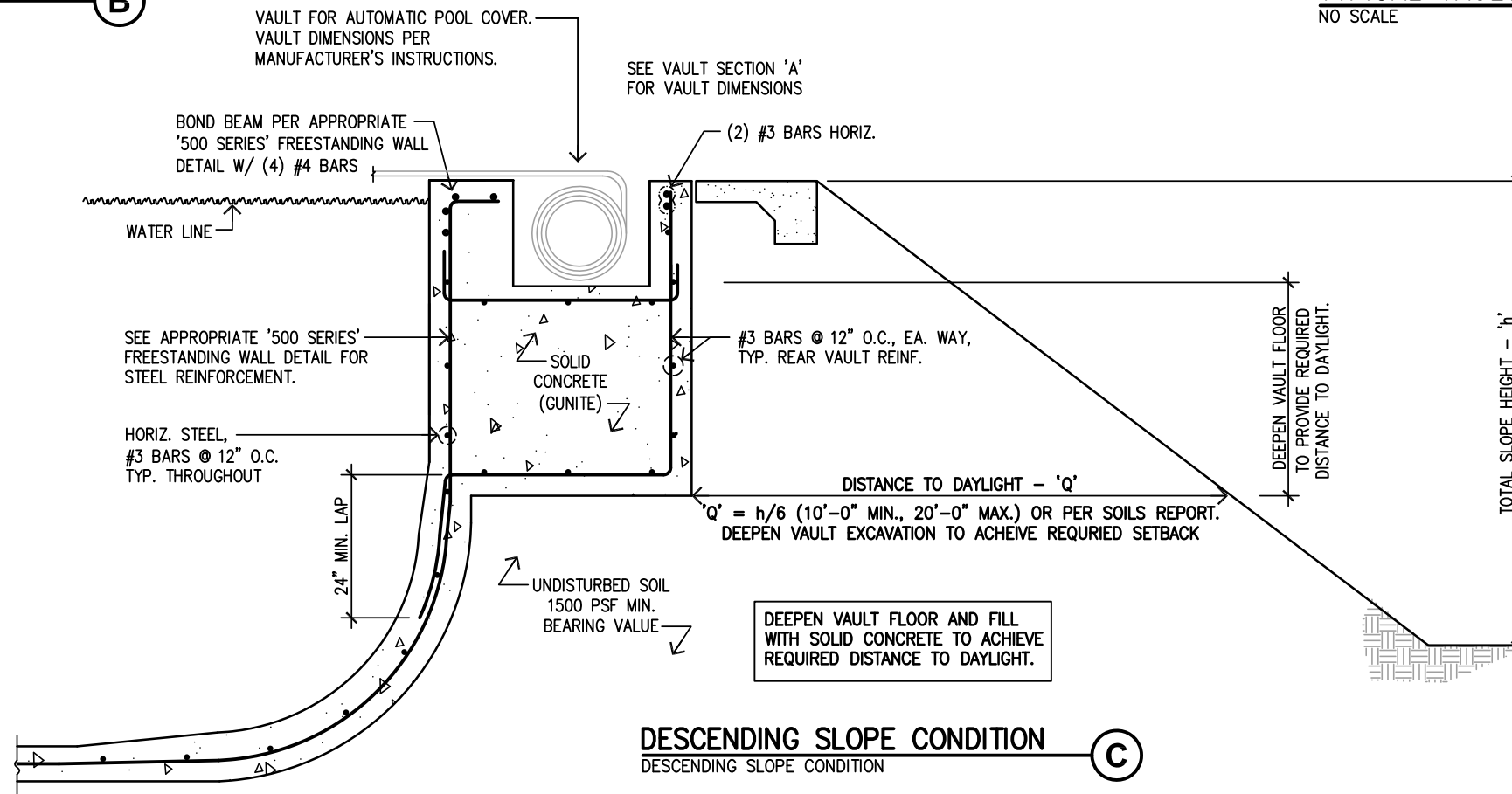
STANDARD POOL STRUCTURAL PLAN, STRUCTURAL NOTE #1 IS REPEATED HERE FOR EMPHASIS:

1. SOIL SHALL HAVE A MINIMUM BEARING VALUE OF 1,500 P.S.F. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL OR BUILDING DEPARTMENT APPROVED 90% COMPACT FILL. THIS PLAN IS NOT SUITABLE WHERE POTENTIAL EXISTS FOR DIFFERENTIAL MOVEMENT FROM DISSIMILAR SOIL CONDITIONS UNDER POOL, SUCH AS CUT-FILL TRANSITIONS.



TYPICAL VAULT SECTION
NO SCALE

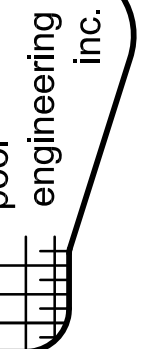
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DESCENDING SLOPE CONDITION
DESCENDING SLOPE CONDITION

C

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AUTOMATIC POOL COVER
VAULT DETAIL

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25-04948-dg

DETAIL #672